APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DATED AND DECIDED SEPTEMBER 5, 2001

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

99-1564

KUSTOM SIGNALS, INC.,

Plaintiff-Appellant,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants-Appellees.

DECIDED: September 5, 2001

Before MAYER, *Chief Judge*, NEWMAN and LOURIE, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* NEWMAN. Dissenting opinion filed by *Chief Judge* MAYER.

NEWMAN, *Circuit Judge*.

Kustom Signals, Inc. appeals the judgment of the United States District Court for the District of Kansas, granting summary judgment of noninfringement of United States Patent No. 5,528,246 issued June 19, 1996, entitled "Traffic

Radar with Digital Signal Processing." We affirm the judgment of the district court.[1]

BACKGROUND

Traffic radar equipment emits radio signals that bounce off target surfaces and return to a receiver that determines target speed upon measurement of various characteristics of the signals. If the radar equipment or the target is moving, the returning signals have a different frequency from the outgoing signals because of the Doppler effect, a shift in frequency proportional to the relative speed of the source and the target. Thus, to determine the speed of a target vehicle, traffic radar equipment measures the frequency shift and if necessary corrects for the speed of the radar source.

In addition to measurement of frequency, the amplitude (magnitude or strength) of the returning signal may indicate the size of the target, its distance, the angle of the surface that reflects the radar beam, and the material of which the object is made. In general, a stronger signal is received from larger or closer objects than from smaller objects or objects farther away.

Before the introduction of radar systems incorporating digital signal processing, most traffic radars were designed to respond to the strongest return signal and display the target

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1. *Kustom Signals, Inc. v. Applied Concepts, Inc.*, 995 F. Supp. 1229, 46 USPQ2d 1056 (D. Kan. 1998) (claim construction, literal infringement) (*Kustom I*); *Kustom Signals, Inc. v. Applied Concepts, Inc.*, 52 F. Supp. 2d 1260 (D. Kan. 1998) (claim construction, doctrine of equivalents infringement) (*Kustom II*).

speed calculated from that signal. This could cause misleading readings when a slower target with a stronger signal (such as a large truck) obscured the response from a faster target with a weaker signal (a speeding car). The introduction of digital signal processing solved this problem by employing a mathematical technique known as Fast Fourier Transform, which allowed analysis of the return signals in greater depth. With digital processing, the returned analog signal may be transformed into a representation based on frequency (indicating target speed) or amplitude (indicating target size).

Digital systems were generally known at the time of the '246 invention; there was evidence at trial that the defendants had marketed a traffic radar wherein digital signal and Fast Fourier Transform processing were utilized to process and search Doppler radar returns for the strongest signal. Multi-mode analog radars that had the capacity to track either the strongest or fastest target were also known in the art.

The '246 patent, filed on June 30, 1994, is directed to a traffic radar system incorporating digital signal processing having user-selectable modes of operation, whereby the operator selects whether to identify and display the speed of either the strongest target or the fastest target vehicle.[2] In accordance with the '246 specification, the return radar signal is first processed in a series of steps that include selective filtering using a Hamming function window, the digital Fast Fourier Transform, a moving average validation, and several

2. The '246 modes also include selections for moving and stationary radar sources, and same direction or opposite direction targets. These modes of operation are not relevant to this dispute.

other averaging and signal validation steps to control for false or misleading signals. The validated signals are saved in an indexed array in the memory of the radar system. After another validation check for periodic noise, the array is duplicated in the radar's memory, and one of the duplicate arrays is sorted by decreasing magnitude of the signal while the other is sorted by decreasing frequency.

The internal processing then diverges, depending on whether fastest or strongest search mode was selected by the radar's operator (if fastest search mode was not selected, the radar defaults to strongest search mode). In fastest search mode, the highest frequency (corresponding to the fastest speed) in the array sorted by frequency is read by the system, checked to assure it is within preset limits, converted into speed unit data, and displayed. In strongest search mode, the frequency of the strongest signal is read from the array sorted by magnitude, checked to assure it is within preset limits, converted into speed units, and displayed.

The Applied Concepts radar device here at issue operates similarly, except that both a strongest and a fastest analysis of the return signal are always performed, and are not subject to operator selection. The radar then displays either the speed of the target producing the strongest signal, or speeds of both the fastest and strongest target signals, as determined by the operator selection of the display mode. Kustom states that this operation is within the scope of the '246 claims. Applied Concepts states that its calculation of the speeds of both the strongest and fastest vehicles is excluded by the '246 claims, which explicitly provide for detection and display of either the strongest or fastest vehicle. Applied Concepts also

contends that Kustom is estopped, by the prosecution history, from obtaining a claim scope that would embrace the Applied Concepts radar system.

Claim Construction

Claim construction is a matter of law, *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71, 34 USPQ2d 1321, 1322 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996), and receives plenary review on appeal. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (*en banc*).

With emphasis added to the words "or" and "either," on which the claim construction issue turns, independent claims 1, 16, and 20 recite:

> 1. A method of processing Doppler return information in a traffic radar comprising the steps of:
>
> [a] receiving Doppler return information containing at least one return signal derived from a target vehicle,
>
> [b] presenting said Doppler return information as digital data,
>
> [c] transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

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[d] storing said components in a memory,

[e] searching said components in memory for the component that meets preselected magnitude *or* frequency criteria, and

[f] indicating the speed of the target vehicle corresponding to the component that meets said criteria.

16. In a traffic radar, apparatus for processing Doppler return information comprising:

[a] means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

[b] means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

[c] memory means for storing said components,

[d] means for searching the components stored in said memory means to identify the component that meets preselected magnitude *or* frequency criteria, and

[e] means responsive to the identified component for indicating the speed of the target vehicle corresponding thereto.

20. In a traffic radar, apparatus for processing Doppler return information comprising:

[a] means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

[b] means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

[c] means for determining the magnitude and frequency of each of said components,

[d] memory means for storing said components,

[e] search means for providing a plurality of modes of operation, including a mode in which a target vehicle component of greatest magnitude in said memory means is identified and a mode in which a target vehicle component of highest frequency in said memory means is identified, and

[f] means under operator control for selecting ***either*** a greatest magnitude ***or*** highest frequency

search, whereby ***either*** strongest signal ***or*** fastest signal target identification is provided.

(Emphases and clause letters added.)

The district court construed the term "or" as used in claim clauses 1[e], 16 [d], and 20[f] to mean "a choice between either one of two alternatives, but not both." This construction was the basis for the court's summary judgment of no infringement, and is the only aspect of the claim construction on appeal.

Kustom argues that "or" should not have been restricted to a search of either the fastest target data (frequency) or the strongest target data (magnitude) "but not both." Kustom states that the district court's construction contradicts the correct usage of the term "or." Kustom points to the *Microsoft Press Computer Dictionary*, 24, 344 (3d ed. 1997), which distinguishes among logical operators, defining "or" (which returns a "true" value when one or both values are true), "and" (which returns a "true" value if and only if both values are true), and "exclusive or" (which returns a "true" value when *only* one value is true). Kustom cites precedent which cautions against construing technical terms of the art at issue in accordance with non-technical dictionary definitions, instead of the technical usage of the field of the invention.

It is presumed that technical words in patent documents are used, and intended to be understood, as they would be used and understood by persons experienced in the field of the invention. *See, e.g., Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478, 45 USPQ2d 1429, 1433

(Fed. Cir. 1998); *Hoechst Celanese Corp. v. BP Chemicals, Ltd.*, 78 F.3d 1575, 1580, 38 USPQ2d 1126, 1130 (Fed. Cir. 1996). However, whatever the meaning of "or" as a logical operator, it is quite clear from the patent documents that Kustom was not using "or" as a technical programming operator, but in its ordinary meaning as stating alternatives. If a divergent specialized usage were intended, the context was such that it was required to be clearly explained in the patent documents. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996) ("[A] patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.").

The district court construed "or" and "either" in their common usage as designating alternatives. We agree with this construction, for there is no indication that Kustom used these words with a different meaning. Particularly, there is no basis whatsoever for believing that Kustom intended its usage of "or" somehow to embrace "and." The district court analyzed the detailed flowcharts in the '246 specification, which showed that only one search of memory is done for any one data set for either magnitude or frequency criteria. The '246 patent does not describe any embodiment that searches for and displays both modes.

Kustom's claim amendments and accompanying remarks, requiring the alternative "multi-mode" operation that is achieved by operator selection of either strongest or fastest mode, are consistent with this construction. As filed, all of the claims of the '246 patent application were rejected

for obviousness over the Muni Quip MDR-1 radar device in combination with United States Patent No. 3,631,486 to Anders. Kustom then rewrote the claims to include the limitation to "magnitude *or* frequency." Original claim 1 did not include clauses 1[d], 1[e], and 1[f], instead reciting a spectrum validation process and the step of "determining the magnitude *and* frequency of each valid component." New clause 1[e] limited the memory search to "magnitude *or* frequency" (emphasis added). Similar changes were made to claim 16, which as filed included "means for determining the magnitude *and* frequency of each valid component and retaining the same in memory"; this clause was cancelled, and clause 16[d] was added, limiting the memory search to "magnitude *or* frequency." Original claim 20 as filed included clause 20[f] with its "either" and "or" limitations on operator selection and target identification. During prosecution Kustom explained to the examiner that "Claim [20] specifically calls for two search modes under operator selection." Kustom described its invention as having "multi-mode operation," whereby the desired mode, whether magnitude (strongest target) or frequency (fastest target) would be selected by the operator. It is apparent that the modes of search and display were intended, in the '246 invention, to be selected in the alternative. The prosecution history requires that "or" means the operator's choice between search for the strongest or fastest target speed, but not both. The district court's claim construction is affirmed.

INFRINGEMENT

Infringement, whether literal or under the doctrine of equivalents, is a question of fact. *Bai v. L & L Wings, Inc.*,

160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed. Cir. 1998). However, summary judgment may be appropriate when there is no genuine issue of material fact or when, drawing all factual inferences in favor of the nonmoving party, no "reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) (the purpose of summary judgment is to avoid an unnecessary trial for which there can be only one outcome). We review the district court's grant of summary judgment de novo. *See EMI Group N. Am., Inc. v. Intel Corp.*, 157 F.3d 887, 891, 48 USPQ2d 1181, 1184 (Fed. Cir. 1998) (reviewing summary judgment of issues of literal infringement and infringement under the doctrine of equivalents, based on the claim construction).

Literal Infringement

On the reasoning that the critical term "or" appears in every claim of the '246 patent, and the undisputed fact that the accused Applied Concepts traffic radar always performs both a fastest and a strongest search of the stored radar return data without operator intervention, the district court held that the "searching . . . for the component that meets preselected magnitude or frequency criteria" limitation of claim 1, "the means for searching . . . [for] preselected magnitude or frequency criteria" limitation of claim 16, and the "means . . . for selecting either a greatest magnitude or highest frequency search" limitation of claim 20, did not read on the accused device. The district court thus granted summary judgment of no literal infringement.

Kustom argues that the accused device infringes literally in that the second search — such as a search for amplitude

after the operator requests a search for frequency — is simply an additional function. Kustom points out that the performance of an additional step is irrelevant when the claimed steps are performed. *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1271, 229 USPQ 805, 812 (Fed. Cir. 1986) ("comprising" opens a method claim to the inclusion of steps in addition to those stated in the claim).

However, the accused traffic radar device does not merely practice an additional function or perform an additional step; it performs a function explicitly moved outside the scope of the claims, for the alternative "or" excludes devices that search both magnitude and frequency. Although Kustom is correct that "comprising" means that the claims do not necessarily recite all of the elements and limitations of a device, or steps of a method, the clause imposing the limiting term "or" requires the exclusion of devices whose memory search includes magnitude and frequency. The open-ended transition "comprising" does not free the claim from its own limitations. *See Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379-80, 49 USPQ2d 1065, 1070 (Fed. Cir. 1998) (the term "comprising" cannot restore subject matter otherwise excluded from the claim). The district court correctly held that the accused device, by its search of both magnitude and frequency without operator instruction, is outside the literal scope of the claims.

The Doctrine of Equivalents

The district court ruled that there was not infringement under the doctrine of equivalents on the ground that finding the accused device equivalent to the claimed invention would

eliminate the "or" element of the claims, thereby violating the all-elements rule. However, this is not an appropriate application of the all-elements rule.

The all-elements rule is that an accused device must contain every claimed element of the invention or the equivalent of every claimed element. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 41 USPQ2d 1865, 1871 (1997). No claimed element, or an equivalent thereof, can be absent if the doctrine of equivalents is invoked. However, all of the steps or elements of method claim 1 or apparatus claims 16 and 20 are undisputedly present in the accused device. The word "or" is not itself an "element" of an apparatus or a step of a method, and its presence to signify alternative elements does not convert "or" into an element. The ruling of non-infringement can not be sustained on this ground.

However, the district court also considered equivalency on alternative grounds. Applying the function/way/result test of *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*, 339 U.S. 605, 608, 85 USPQ 328, 330 (1950), the court held that no reasonable trier of fact could find equivalency. The court found that the accused device's methodology of automatically searching both magnitude and frequency data was a substantially different way of operation, compared with the '246 device's operator-initiated search of either magnitude or frequency data. Kustom argues that this analysis is incorrect, and that a "link" in the radar's programming is all that differentiates the "or" of the claims and the "and" of the accused device. Kustom states that such a link is an insubstantial difference.

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The district court correctly concluded that the prosecution history estops Kustom from relying on the position that a device which searches for both fastest and strongest targets performs substantially the same function as a device which searches for either the fastest or the strongest target. During prosecution, in response to a rejection for obviousness under 35 U.S.C. § 103, Kustom amended claims 1 and 16 to include this limitation to the alternative search for magnitude or frequency, and argued that claim 20 was directed to operator-selected alternative search modes for magnitude or frequency. The use of digital signal processing for traffic radar was known to the prior art, and the prosecution of the '246 invention emphasized its operator-selected search of memory for the data identifying the fastest or strongest target. The amendments and arguments during prosecution estop Kustom's assertion of equivalency of the accused radar device, which performs and displays both search modes. We affirm the grant of summary judgment of noninfringement on this alternative ground.

AFFIRMED

Appendix A

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

99-1564

KUSTOM SIGNALS, INC.,

Plaintiff-Appellant,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants-Appellees.

MAYER, *Chief Judge*, dissenting.

I respectfully dissent. In this case, "or" should be construed inclusively to mean "one or another or both." First, the plain meaning of "or" can be "either or both." If a store owner says, "If it hails or snows today, we will close the store," then the owner will still close the store if it happens to hail *and* snow. Moreover, because we are required to refer to the detailed flowcharts in the '246 patent specification to interpret "or" in two of the claims in suit under 35 U.S.C. § 112 ¶ 6, it is appropriate for us to adopt the technical Boolean definition of the term to determine its meaning to one of ordinary skill in the art. The structure and acts detailed in the specification flowcharts are consistent with this construction. Regardless of whether the operator selects the fastest or strongest mode, both the strongest and the fastest signals are always "searched" (as the district court construed

the term). The signals are saved in the indexed array, and duplicated, with one set sorted by decreasing magnitude (finding the "strongest" signal) and the other sorted by decreasing frequency (finding the "fastest" signal). The prosecution history does not limit this construction. Kustom's addition of the "or" limitation did not distinguish the invention over the Muni Quip MDR-1 radar device because that device also had the capacity to track the strongest or fastest signal. For these reasons, I would further interpret "criteria" as "standards used to search for a fastest or strongest target." I would remand for a determination of disputed issues of material fact as to the operation of the accused device under the above claim construction. A device may be an improvement over prior art, and at the same time infringe.

APPENDIX B — MEMORANDUM AND ORDER DIRECTING ENTRY OF FINAL JUDGMENT AND JUDGMENT OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF KANSAS DATED AND FILED AUGUST 3, 1999

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

Civil Action No. 96-2296-KHV

KUSTOM SIGNALS, INC.,
a Kansas Corporation,

Plaintiff,

v.

APPLIED CONCEPTS, INC., a Texas Corporation,
and JOHN L. AKER, an Individual,

Defendants.

MEMORANDUM AND ORDER DIRECTING ENTRY OF FINAL JUDGMENT PURSUANT TO FEDERAL RULE OF CIVIL PROCEDURE 54(b) ON KUSTOM'S CLAIMS OF INFRINGEMENT OF THE '246 PATENT

On the 2nd day of August, 1999, the above-captioned matter came before the Court for a status conference. The parties appeared by their respective attorneys of record.

The parties jointly moved this Court to enter a final judgment pursuant to Federal Rule of Civil Procedure 54(b)

on Kustom Signals, Inc.'s ("Kustom") claims of infringement. After hearing argument, the Court makes the following findings:

1. This action involves more than one claim for relief. Kustom's claims of infringement under the '246 patent are separate and distinct claims from Applied Concept, Inc.'s ("ACI") and John Aker's ("Aker") claims/defenses of invalidity of the '246 patent.

2. By Memorandum and Order dated February 9, 1998, the Honorable Earl O'Connor entered a summary judgment of no infringement in favor of ACI and Aker on Kustom's claim of literal infringement of the '246 patent.

3. By Memorandum and Order dated June 18, 1999, this Court entered a summary judgment of no infringement in favor of ACI and Aker on Kustom's claim of infringement of the '246 patent under the doctrine of equivalents.

4. The Court finds that there is no just reason for delaying the entry of judgment in favor of Defendants ACI and Aker on the claims of infringement. Conducting a trial on the validity of the '246 patent would be a needless expenditure of the resources of the Court and of the parties, because this Court has already found that Defendants have not infringed the '246 patent. *See York Products, Inc. v. Central Tractor*, 99 F.3d 1568, 1571 (Fed. Cir. 1996) (party acted responsibly to avoid needless expenditure of the resources of the parties and of the court by consenting to the entry of judgment as a matter of law to expedite its appeal); *W.L. Gore v. Intern. Medical Prosthetics Research*, 975 F.2d

858, 864 (Fed.Cir. 1992) (Rule 54(b) certification is proper where infringement claim was finally adjudicated and there is more than one claim for relief.)

5. Finding that there is no just reason for delay in the entry of final judgment in favor of Defendants ACI and Aker and against Kustom, the Court expressly directs the entry of judgment in favor of ACI and Aker on the claims of infringement of the '246 patent.

6. The Court further stays the proceedings pertaining to all invalidity claims/defenses (whether addressed in the June 18, 1999, Order or not). No further action shall be taken with respect to any invalidity claims/defenses until the appeal of the infringement claims is concluded.

IT IS THEREFORE BY THE COURT CONSIDERED, ORDERED, ADJUDGED AND DECREED that judgment shall be entered on Kustom's claims of infringement of the '246 patent in favor of ACI and Aker and against Kustom.

BY THE COURT, IT IS SO ORDERED.

DATED: August 3, 1999

s/ Kathryn H. Vratil
KATHRYN H. VRATIL
UNITED STATES DISTRICT
JUDGE

Appendix B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

JUDGMENT IN A CIVIL CASE

Civil Action No. 96-2296-KHV

KUSTOM SIGNALS, INC.,
a Kansas Corporation,

Plaintiff,

v.

APPLIED CONCEPTS, INC., a Texas Corporation,
and JOHN L. AKER, an Individual,

Defendants.

* * *

(XX) **DECISION BY THE COURT.** This action came to decision before the Court. The issues have been considered and a decision has been rendered.

IT IS ORDERED AND ADJUDGED that judgment shall be entered in favor of Defendants Applied Concepts, Inc. and John L. Aker in accordance with the Memorandum and Order Directing Entry of Final Judgment pursuant to Federal Rule of Civil Procedure 54(b) on Kustom Signals, Inc.'s claims of infringement of the '246 Patent filed on August 3, 1999.

Appendix B

Dated: August 3, 1999

RALPH L. DeLOACH,
CLERK

s/ Linda South
Linda South, Deputy Clerk

APPENDIX C — MEMORANDUM AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF KANSAS DATED AND FILED JUNE 18, 1999, AS AMENDED JUNE 29, 1999

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

CIVIL ACTION
No. 96-2296-KHV

KUSTOM SIGNALS, INC.,

Plaintiff,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants.

MEMORANDUM AND ORDER

Plaintiff Kustom Signals, Inc. ("Kustom") has filed suit against Applied Concepts, Inc. and John L. Aker, alleging that they infringed its patent for a police traffic radar. This matter is before the Court on *Defendants' Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent* (Doc. #116) filed February 26, 1999; *Defendants' Motion For Summary Judgment On The Issue Of Infringement Of The '246 Patent* (Doc. #119) filed February 26, 1999; *Plaintiff's Motion For Summary Judgment Of Infringement Of U.S. Patent No. 5,528,246* (Doc. #122) filed March 1, 1999; and *Plaintiff's Cross Motion For Summary*

Appendix C

Judgment Of Validity Of The '246 Patent (Doc. #130) filed March 24, 1999. The Court held oral argument on the above motions on May 3, 1999. After carefully considering the record evidence and arguments of counsel, the Court is prepared to rule. For the reasons set forth below, defendants' motion for summary judgment on non-infringement is sustained, plaintiff's motion for summary judgment on patent validity is sustained in part, and all other motions are overruled.

Summary Judgment Standards

Summary judgment is appropriate if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. Fed.R.Civ.P. 56(c); *accord Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986); *Vitkus v. Beatrice Co.*, 11 F.3d 1535, 1538-39 (10th Cir. 1993). A factual dispute is "material" only if it "might affect the outcome of the suit under the governing law." *Anderson*, 477 U.S. at 248. A "genuine" factual dispute requires more than a mere scintilla of evidence. *Id.* at 252.

The moving party bears the initial burden of showing the absence of any genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986); *Hicks v. City of Watonga*, 942 F.2d 737, 743 (10th Cir. 1991). Once the moving party meets its burden, the burden shifts to the nonmoving party to demonstrate that genuine issues remain for trial "as to those dispositive matters for which it carries the burden of proof." *Applied Genetics Int'l, Inc. v. First*

Affiliated Secs., Inc., 912 F.2d 1238, 1241 (10th Cir. 1990); *see also Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 586-87 (1986); *Bacchus Indus., Inc. v. Arvin Indus., Inc.*, 939 F.2d 887, 891 (10th Cir. 1991). The nonmoving party may not rest on its pleadings but must set forth specific facts. *Applied Genetics*, 912 F.2d at 1241.

"[W]e must view the record in the light most favorable to the parties opposing the motion for summary judgment." *Deepwater Invs., Ltd. v. Jackson Hole Ski Corp.*, 938 F.2d 1105, 1110 (10th Cir. 1991). Summary judgment may be granted if the non-moving party's evidence is merely colorable or is not significantly probative. *Anderson*, 477 U.S. at 250-51. "In a response to a motion for summary judgment, a party cannot rely on ignorance of facts, on speculation, or on suspicion, and may not escape summary judgment in the mere hope that something will turn up at trial." *Conaway v. Smith*, 853 F.2d 789, 794 (10th Cir. 1988). Essentially, the inquiry is "whether the evidence presents a sufficient disagreement to require submission to the jury or whether it is so one-sided that one party must prevail as a matter of law." *Anderson*, 477 U.S. at 251-52.

Factual Background

The following facts are uncontroverted or deemed admitted for purposes of the instant motions.[1]

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1. Defendants cite factual determinations by the Honorable Earl E. O'Connor, in connection with defendants' earlier summary judgment motion, and argue that they constitute the law of the case pursuant to Fed.R.Civ.P. 56(d). Defendants ignore Judge O'Connor's

(Cont'd)

Appendix C

Kustom alleges that Applied Concepts, Inc. ("ACI") and John L. Aker infringed its patent for a police radar, specifically U.S. Patent No. 5,528,246 (the " '246 patent" or " '246 radar"). Defendants deny infringement and allege that the patent is invalid. ACI manufactures and sells the accused traffic radars, the Stalker Dual and the Stalker Dual SL. Aker, an ACI shareholder, designed the software that controls the operation of the digital signal processor ("DSP") in the accused radars. Pursuant to an agreement with ACI, Aker receives royalties on Stalker Dual sales.

A. Background Of Doppler Police Radars

In the context of traffic surveillance, Doppler police radars emit signals that bounce off surfaces in front of the radar. These surfaces include target vehicles, immobile roadside objects such as signs, the ground, and even the fan in the patrol car engine. The bounced signals return to the police radar, where a receiver detects and reads them. *See Defendants' Memorandum In Support Of Their Motion For Summary Judgment On The Doctrine Of Equivalents* (Doc. #120) filed February 26, 1999, Statement Of

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(Cont'd)
clear prefatory statement that the stated facts were "[f]or purposes of defendants' motion." *Kustom Signals, Inc. v. Applied Concepts, Inc.*, 995 F. Supp. 1229, 1231 (D. Kan. 1998). Judge O'Connor made no specific findings of fact pursuant to Rule 56(d). *Cf. In re Independent Servs. Orgs. Antitrust Litig.*, 964 F. Supp. 1469, 1476 (D. Kan. 1997) (Judge O'Connor noted that "[p]ursuant to Rule 56(d) of the Federal Rules of Civil Procedure, the court finds that the following facts exist without substantial controversy and thus will be deemed established at trial of this action").

Appendix C

Uncontroverted Facts ("ACI's Infr. SOF") ¶ 1. The returning radar signals have a different frequency from the outgoing signals because of the "Doppler effect." The Doppler effect causes a shift in frequency which is proportional to the relative speed between the police radar and the object from which the signal bounced. To determine target speed, the radar first determines the frequency of the target return signal; it then determines the speed, if any, that the radar in the patrol car is traveling; it finally measures the Doppler shift between the two. The higher the frequency shift, the faster the target. A search for the radar return with the highest frequency is called a "fastest search," *i.e.* a search for the fastest target. *See id.* ¶ 2.

Some of the return signals do not represent real targets, because many phenomena can create high frequency return signals. For example, radar signals can double and triple bounce between the patrol car and roadside signs or other vehicles and cause a false target at double or triple the relative closure speed. Also, strong signals in the spectrum can generate harmonics far greater than their true frequency. Further, multiple strong return signals can mix. This can cause "intermodulation products" which read as false targets. *See id.* ¶ 3.

One way to screen false targets is to measure the "amplitude" of the return signal. Amplitude is sometimes referred to as the "magnitude" or "strength" of the signal. Amplitude can indicate both the size and the distance of the object which reflects the signal, the angle of the surface which reflects the radar beam, and the material from which the object is made. For example, a tractor-trailer rig typically

has a higher amplitude signal than most roadside objects. Because many of the phenomena that cause high frequency false targets have low amplitudes, Doppler radar can use an amplitude measurement to screen out signals that do not meet a minimum threshold. In police radar parlance, the highest amplitude signal is called the "strongest" signal. *See id.* ¶ 5.

Police officers cite traffic violators for speeding based on "tracking history." Tracking history includes visual observation of the various vehicles which are in view of the officer, visual estimates of target vehicle speed, and all other information available to the officer. Police use radar to verify their visual estimates of vehicle speed. *See id.* ¶ 6.

In most states, to secure a conviction for a speeding offense based on radar evidence, the officer must confirm the radar target display speed by visual estimate, and the displayed speed must be the speed of the strongest signal which the radar has detected. Accordingly, before 1994, most police radars automatically selected the strongest radar return signal and displayed its speed in a target speed display window. Reliance on a strongest search can be limiting, however, if a smaller, faster vehicle is very close to a slower, larger vehicle that reflects a stronger signal. *See id.* ¶ 7. Also, a search for the strongest signal does not eliminate problems of misidentification. The return signal that is strongest may not be the target the officer is looking at, and the closest vehicle does not always generate the strongest signal. For example, a truck with a large radar cross-section that is half a mile away can generate a stronger radar return than a car with a small radar cross-section that is only a quarter of a mile away. Further, a distant car with a small radar cross-

section can generate a "glint" if the radar beam strikes the car surface at a particular angle relative to the radar beam. The glint signal can be stronger than the signal from another vehicle that is both closer to the radar and has a larger radar cross-section. *See id.* ¶ 8.

B. Background Of Fast Fourier Transform Processing

In 1990, ACI introduced the Stalker police radar. *See id.* ¶ 10. The Stalker employed a mathematical technique known as digital Fast Fourier Transform ("FFT") processing. *See id.* ¶ 11. The Stalker radar digitized the analog radar return signals and then performed an FFT on the samples. *See id.* ¶ 12. By performing an FFT, complex analog signals can be transformed into a frequency domain representation, each component having a different frequency (indicating target speed) and amplitude (indicating target signal strength). The resulting collection of single frequency components is called a "spectrum" of Fourier components. In FFT parlance, each single frequency component is called a "bin" and each bin has an index which represents its frequency. *See id.* ¶ 13. This technique permits complex digital signal processing to verify that each bin fits certain acceptance criteria. If a bin does not fit certain threshold criteria, the radar disregards it as a false target. It also allows the bins to be sorted by strength (strongest search). By 1994, the bins also could be sorted by frequency (fastest search). Digital FFT Doppler police radars are more sensitive than older analog radars, so speeders can be detected at a greater distance. *See id.* ¶ 14.

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C. Kustom's Development Of The '246 Patent

By July 25, 1991, the inventors conceived the invention of the '246 patent set forth in claims 1, 3, 6, 16, 17 and 20. *See Memorandum In Support Of Plaintiff's Motion For Summary Judgment Of Infringement Of U.S. Patent No. 5,528,246* (Doc. #123) filed March 1, 1999, Statement Of Facts ("Kustom's Infr. SOF") ¶ 3. In October 1993, Kustom introduced for sale to the public its Eagle series of FFT radars with fastest or strongest capability. That month, it distributed at an International Association of Chiefs of Police Convention in St. Louis, Missouri an Eagle brochure which advertised the fastest function. *See* Kustom's Infr. SOF ¶ 7; ACI's Infr. SOF ¶ 30. Until that time, defendants did not realize that the market would support a traffic radar with a fastest function. *See id.* ¶ 9. Eight months later, on June 14, 1994, the National Highway Traffic Safety Administration ("NHTSA") approved use of fastest technology. *See* ACI's Infr. SOF ¶ 32.

On June 30, 1994, Kustom submitted an application to the Patent and Trademark Office ("PTO") for the '246 patent, a traffic radar with a digital signal processor ("DSP"). The application contained 21 claims, and the PTO rejected all of them for obviousness. On June 5, 1995, Kustom filed an amended patent application which deleted the original claims and added 21 new ones. On June 18, 1996, the PTO issued the '246 patent to Kustom as the sole owner of the patent by assignment from the inventors, Richard L. Henderson, John M. Kusek and Donald R. Bradrick. The '246 patent discloses a traffic radar device which processes Doppler return information in an effort to improve target identification and minimize interference and unwanted harmonics.

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For convenience in discussing the patent claims, the Court has added paragraph letters to those claims in the original and amended '246 patent which did not include them.

Original independent claim 1 of the '246 patent disclosed:

> A method of processing Doppler return information in a traffic radar comprising the steps of:
>
> (a) receiving Doppler return information containing at least one return signal derived from a target vehicle,
>
> (b) presenting said Doppler return information as digital data,
>
> (c) transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,
>
> (d) validating said frequency components present in said spectrum by determining if each component has a greater magnitude than an average magnitude representative of the sensitivity of the spectrum, and
>
> (e) determining the magnitude and frequency of each valid component.

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New claim 1 did not include original clauses (d) and (e) but added the following:

(d) storing said components in a memory,

(e) searching said components in memory for the component that meets preselected magnitude or frequency criteria, and

(f) indicating the speed of the target vehicle corresponding to the component that meets said criteria.

Original independent claim 16 disclosed:

In a traffic radar, apparatus for processing Doppler return information comprising:

(a) means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

(b) means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

(c) means for determining if each of said components has a greater magnitude than an average magnitude representative of the

sensitivity of the spectrum, whereby to validate those frequency components having said greater magnitude, and

(d) means for determining the magnitude and frequency of each valid component and retaining the same in memory.

New claim 16 did not include original clauses (c) or (d) but added the following:

(c) memory means for storing said components,

(d) means for searching the components stored in said memory means to identify the component that meets preselected magnitude or frequency criteria, and

(e) means responsive to the identified component for indicating the speed of the target vehicle corresponding thereto.

Original independent claim 20 disclosed:

In a traffic radar, apparatus for processing Doppler return information comprising:

(a) means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

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(b) means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

(c) means for determining the magnitude and frequency of each of said components,

(d) search means for providing a plurality of modes of operation, including ~~a~~ mode in which a target vehicle component of greatest magnitude is identified and a mode in which a target vehicle component of highest frequency is identified, and

(e) means under operator control for selecting either a greater magnitude or highest frequency search, whereby either strongest signal or fastest signal target identification is provided.

New claim 20 is similar to the original claim 20 but adds clause (c1) and slightly modifies clause (d):

(c1) memory means for storing said components,

(d) search means for providing a plurality of modes of operation, including a mode in which a target vehicle component of greatest magnitude in said memory means is identified and a mode in which a target

vehicle component of highest frequency in said memory means is identified.

The '246 patent specification provides six processing modes of operation under operator control: (1) stationary mode, strongest signal; (2) stationary mode, fastest signal; (3) moving mode, opposite direction, strongest signal; (4) moving mode, opposite direction, fastest signal; (5) moving mode, same direction (same lane), normal processing; and (6) moving mode, same direction (same lane), slower target processing. *See* ACI's Infr. SOF ¶ 35.

The '246 patent specification also discloses a spectrum validation process which receives the frequency components generated by the FFT process (*see* Figure 17) and computes an average that represents the sensitivity of the spectrum. *See* '246 flow chart, Fig. 18; *Memorandum In Support Of Defendants' Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent* (Doc. #117) filed February 26, 1999, Statements Of Uncontroverted Facts ("ACI's Validity SOF") ¶ 39. This process does not vary from one operating mode to another. Generally speaking, the spectrum validation process subjects the frequency components to various criteria to remove noise and harmonics and ranks the remaining components by strength and speed to identify the strongest and fastest candidates. *See* Kustom's Infr. SOF ¶ 13. After the FFT transform is performed, a working copy of the FFT spectrum is made. *See* '246 flow chart, Fig. 18, box 14. Based upon an operator selected range value, a range factor (from one to six) is then read from data supplied by the microcontroller unit ("MCU"). The number of frequency (target speed) components in the averaged spectrum received

from the FFT is then set into a loop counter to establish the maximum number of times the processing loop of Figure 18 will be performed. Next, by averaging the magnitude of the frequency component and the magnitudes of its 32 neighboring frequency components, a 33 point moving average is calculated around each frequency component. This moving average establishes a local noise floor for every peak that represents the average magnitude of the background noise in the vicinity of each frequency component. The 33 point moving average and the range factor are then multiplied. This calculation establishes the threshold or minimum level of magnitude a frequency component must have, if it is to be allowed into the spectrum that will be searched. The magnitude of each frequency component is then compared to this threshold or minimum magnitude level. Any frequency component with a magnitude that is less than the minimum is set to zero, thereby eliminating it from the spectrum to be searched. The effect of this adjustment is to eliminate those frequency components which represent noise peaks such as peaks resulting from roadside signs, grass, dirt or the roadway pavement itself. *See id.* ¶ 36.

The spectrum validation steps of Figure 18 do not transform digital data into the frequency domain. *See id.* ¶ 37. Rather, the FFT process of Figure 17 converts the digital data encoding the Doppler signal into frequency components of a Fourier spectrum in the frequency domain. *See id.* ¶ 38.

After the spectrum validation process and moving average examination, the '246 radar reads the fastest/ strongest flag. In any fastest mode, the '246 radar conducts a top down search of an array of frequency components that

have been sorted by descending order of index or frequency. The radar sets a pointer at the highest frequency component in the sorted array, reads its amplitude and index/frequency, and determines if that component has a zero magnitude. If the frequency component has a nonzero magnitude, the '246 radar determines if its index/frequency is within limits. The first frequency component that has a nonzero amplitude and an index that is within limits is accepted as the fastest target. If the frequency component either has a zero amplitude or its index is outside of limits, the pointer is moved down to the next lower frequency bin in the array and the process starts again (to prevent a display of obviously ridiculous speeds). *See* ACI's Validity SOF ¶ 45. The first frequency component in the array with a nonzero amplitude and an index within limits will be the target selected as the fastest target. *See id.* ¶ 46. In any strongest mode, the '246 radar conducts a similar top down search of an array of frequency components that have been sorted by descending order of magnitude.

Kustom intended that the '246 patent would cover its Eagle series radars. Its Golden Eagle radar manual, copyright 1993, states that the fan interference filter may be turned off, apparently for those vehicles that do not generate detectable fan noise. The '246 patent states that the only significant tradeoff of the periodic noise search is that the radar may not recognize a target with a frequency which is essentially equal to one of the harmonics.

D. Claim Construction

Pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), Judge O'Connor made the following claim

construction findings: (1) the term "or" as used in claims 1(e), 16(d) and 20(e) means "a choice between either one of two alternatives, but not both;" (2) the term "criteria" in claims 1(e), 1(f), and 16(d) means "standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator;" and (3) the term "preselected" in claims 1 and 16 means "a selection of criteria which have been programmed into the software and cannot be altered by the operator." *See Kustom*, 995 F. Supp. at 1236-38.

E. Comparison Of Operation Of The '246 Radar And The Stalker Dual Radars

ACI added the fastest function to its Stalker Dual radars in 1994. In the Stalker Dual, the FFT spectrum processing does not vary based on the operator's selection of strongest or fastest mode. As with the '246 patent, the spectrum validation process subjects the frequency components to various criteria to remove noise and harmonics and ranks the remaining components by strength and speed to identify the strongest and fastest candidates. *See* Kustom's Infr. SOF ¶ 14.

In separate windows, the Stalker Dual simultaneously displays both the strongest target and the fastest target. The '246 radar has only one target window, where it displays either the strongest target speed or the fastest target speed. In Stalker Dual radars, the fastest target speed goes blank when the fastest vehicle becomes the strongest target; the number which represents miles per hour appears to "move" from the fastest target display window to the strongest target

display window. *See* ACI's Infr. SOF ¶ 82. Based on the same set of data, Stalker Dual radars can search and display both the strongest and fastest targets. In the '246 radar, the radar must collect new data if the operator switches from fastest to strongest mode or vice versa. *See id.* ¶ 41. In strongest mode, Stalker Dual radars do not complete the identification of the fastest target vehicle or display any information regarding it.

When the Stalker Dual is in fastest mode, it will not select a fastest candidate unless a valid strongest target is displayed and the fastest candidate is at least one unit greater than the strongest target. *See id.* ¶¶ 43, 81. In this respect it is unlike the '246 radar. The difference in structure and operation between the Stalker Dual and the '246 radars frequently leads to different results in the same traffic situation. *See id.* ¶ 79. Two different noise-to-signal ("N/S") acceptance criteria are used as initial screens, and these N/S ratios are picked from a table among multiple tables. The operator sensitivity selection and the patrol speed control the particular table which these N/S ratio acceptance ratios are derived. Stalker Duals find the fastest target by testing the N/S ratios of the fastest candidates, starting with the fastest. The first fastest candidate that passes both N/S tests is selected for further screening to determine if it is a possible false target.[2] The others are ignored.

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2. Potential causes of false target readings include mobile data terminals in the patrol car, a harmonic double of the strongest target, or a double or triple harmonic of the patrol speed. If the fastest candidate fails any one of numerous tests, it is rejected. *See id.* ¶ 81.

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Stalker Dual radars first screen any given fastest candidate for the possibility that it may be a false target caused by a mobile data terminal in the patrol car. The '246 radar performs no such testing. *See id.* ¶ 67.[3]

Stalker Dual radars also screen for false fastest targets caused by strongest signals in the spectrum. In contrast, the '246 radar ignores strongest signals during a fastest search, does not have in memory the number of strongest signals in the spectrum, and does not have in memory the frequency or absolute strength of each strongest signal. The Stalker Dual has a variable gain amplifier which amplifies incoming signals by a gain level controlled by the DSP. Its knowledge of the gain level at which the samples have been take allows the Stalker Dual to calculate the true power of the frequency components in the spectrum. At a certain level of true power, any strong signal at the output of the mixer diodes in the radar receiver may generate double bounce, harmonic and intermodulation phenomena which cause false target signals. When the Stalker Dual performs a fastest search, it first performs a strongest search and saves the four strongest

3. Kustom objects to paragraphs 67 through 72 of defendants' statement of facts because defendants did not specifically set forth these differences between the '246 patent and the Stalker Dual radars in the Pretrial Order. Although defendants should have at least identified the general differences in the Pretrial Order, the Court finds that Kustom was on adequate notice based on Aker's First Supplemental Expert Report and other discovery taken in the case. Moreover, the Court prefers to decide issues on the merits and counsel for defendants represents that Magistrate Judge Rushfelt denied their request for more particularity in the Pretrial Order. Finally, even if the Court ignored these specific paragraphs, it would reach the same result.

signals in the spectrum. Because it knows the frequency and true power of the four strongest signals, the Stalker Dual can screen each potential fastest candidate to determine if it is a false target generated by double bounce, harmonic and intermodulation phenomena. Absolute signal strength of the incoming signals cannot be known unless the gain of the preamplifier that amplified the signals is known. *See id.* ¶ 84. The '246 patent does not teach control of the gain of the preamplifier by the DSP or screening for intermodulation product false fastest targets. *See id.* ¶ 85.

Stalker Dual radars also determine whether a fastest candidate is a double or triple of the patrol speed. If it is, the Stalker Dual rejects the fastest candidate only if it has a N/S ratio which is larger than an acceptance N/S ratio selected in accordance with the true power of the patrol speed. The Stalker Dual therefore can recognize a target that is traveling the exact speed of the patrol car or twice the exact speed of the patrol car, as long as none of the criteria of the double or triple suppression algorithm (described above) cause the candidate to be rejected. The '246 radar performs no such testing. The '246 harmonic suppression algorithm always rejects a target which is a double or triple of the patrol speed even if it is a legitimate target. *See id.* ¶¶ 69-71.

Stalker Dual radars screen for intermodulation products. The '246 radar does not disclose any intermodulation product screening other than the moving average examination. The Stalker Dual will not miss weak fastest targets which survive the intermodulation product testing criteria. In contrast, the '246 radar will miss any fastest target that is not strong enough to exceed the sensitivity threshold. The '246 and

Stalker Dual radars therefore generate different results in many traffic situations where weak fastest targets are present. *See id.* ¶ 72.

With its method of processing, the '246 radar creates "blind spot" target situations. More specifically, it zeroes out certain targets which are traveling at speeds which mimic the harmonics of patrol speed or of an assumed fundamental created by fan noise. For example, the '246 radar will not display the speed of an approaching target which is traveling at exactly the speed of the patrol vehicle. If a patrol vehicle is traveling 75, and an opposite lane strongest target is traveling toward the patrol vehicle at 75, the frequency of the closing speed will be the equivalent of 150 in the spectrum generated by the FFT. The '246 patent will zero out the strongest target spectral line because it assumes that the target is a harmonic of the patrol speed signal. *See id.* ¶ 60.

"Look through" problems also occur in the '246 radar. If a patrol vehicle is traveling at 55, and the closest approaching vehicle is traveling the same speed, the '246 radar in strongest mode may "look through" that vehicle and see a more distant vehicle approaching at 70. The officer may therefore mistake the speed of the closest vehicle and the speed of the vehicle gaining behind it, creating an incorrect tracking history. If the officer's visual observation did not contradict the radar of if the officer did not make a visual observation, the 55 mph strongest target could be ticketed for traveling at 70. *See id.* ¶ 61.

Stalker Dual radars use a combination of hardware and software to avoid "blind spot" and "look through" problems

with strongest targets. A serial communications link from the DSP controls antenna receiver gain, reducing it to prevent overload or increasing it to achieve maximum dynamic range. The DSP knows the antenna receiver gain, and it can compute the absolute signal strength of a given signal. Based on this computation, a software algorithm predicts a maximum absolute magnitude of the second and third harmonics of that signal. If the potential target frequency is a harmonic multiple of a strong signal frequency, the Stalker Dual will display the target if its signal strength is greater than the computed signal harmonic maximum. If the target signal strength is less than the computed signal harmonic maximum, the Stalker Dual will not indicate the potential target speed. The target display window will be blank and no alternate target will be chosen or displayed as long as the potential target is the strongest target. This feature avoids the '246 "look through" situation where an alternate target (not the closest) might be displayed as the strongest target. *See id.* ¶ 62.

Interference from the heater or air conditioner fan of the patrol car can also cause "look through" problems in the '246 radar. Such a problem might occur in stationary mode where the fan speed (as detected by the radar unit) is 10. The '246 radar will ignore a 30 mph target signal and search for a signal that is not a harmonic multiple of the fan speed. The Stalker Dual avoids this problem by displaying the 10 mph fan speed until the antenna is moved to a location where fan interference is not displayed. If the antenna is not moved, the Stalker Dual will display the speed of any target which is greater than the magnitude of the fan signal, even if the target signal is a harmonic multiple of the fan speed. *See id.* ¶ 63.

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In stationary mode, Stalker Dual radars determine if a fastest candidate is moving faster than a predetermined speed. This test eliminates some sources of false fastest targets and thus achieves a different result than the '246 radar in some traffic situations. *See id.* ¶ 68.

On November 25, 1997, the PTO issued U.S. Patent No. 5,691,724 to John L. Aker. In the prosecution history of the '724 patent, defendants disclosed the '246 patent as prior art and stated that the '246 patent "[t]eaches a digital FFT based Doppler traffic radar that can selectively find either the strongest radar return signal and display the speed thereof or, upon a command from the operator, find the highest frequency Doppler radar return signal which has a nonzero amplitude and calculates and displays the speed thereof as indicative of the speed of the fastest target." Joint Exh. HH, '724 Patent Prosecution History, Information Disclosure Statement filed Aug. 8, 1996 at 2. The claims of the '724 patent read on the commercial version of the Stalker Dual radar. *See* ACI's Infr. SOF ¶ 113.

Analysis

I. Patent Validity

Defendants seek summary judgment declaring that the '246 patent is invalid for failure to set forth the best mode known to the inventors and for failure to distinctly define the subject matter which the inventors regarded as the invention.[4]

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4. Defendants also argue that the '246 patent does not meet the description requirement of 35 U.S.C. § 112 ¶ 1. The Court need not (Cont'd)

Kustom has filed a cross-motion for summary judgment on the same issues.

Pursuant to statute, a patent is presumed valid. *See* 35 U.S.C. § 282; *United States Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1212 (Fed. Cir. 1996). In addition, each claim in a patent is presumed valid, independent of the validity of other claims in the same patent. *See* 35 U.S.C. § 282. The party challenging validity has the burden to establish by clear and convincing evidence that the patent is invalid. *See National Gypsum*, 74 F.3d at 1212.

A. *Best Mode Requirement*

To be valid, a patent must "set forth the best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112 ¶ 1. The Court reviews a patent holder's compliance with this requirement as follows:

> [A] proper best mode analysis has two components. The first is whether, at the time the inventor filed his patent application, he knew of a mode of practicing his claimed invention that he considered to be better than any other. This part of the inquiry is wholly subjective, and resolves

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(Cont'd)
address this issue because defendants failed to raise it in the *Pretrial Order* (Doc. #105) filed January 5, 1999. The pretrial order supersedes all pleadings and controls the subsequent course of the case. *See* Fed.R.Civ.P. 16(e); D. Kan. Rule 16.2(c); *Hullman v. Board of Trustees of Pratt Community College*, 950 F.2d 665, 667 (10th Cir. 1991).

> whether the inventor must disclose any facts in addition to those sufficient for enablement. If the inventor in fact contemplated such a preferred mode, the second part of the analysis compares what he knew with what he disclosed — is the disclosure adequate to enable one skilled in the art to practice the best mode or, in other words, has the inventor "concealed" his preferred mode from the "public"? Assessing the adequacy of the disclosure, as opposed to its necessity, is largely an objective inquiry that depends upon the scope of the claimed invention and the level of skill in the art.

Chemcast Corp. v. Arco Indus. Corp., 913 F.2d 923, 927-28 (Fed. Cir. 1990). A patent holder's compliance with the best mode requirement is a question of fact. *See Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1535-36 (Fed. Cir.), *cert. denied*, 484 U.S. 954 (1987).

The Court first must evaluate whether as of June 30, 1994, the inventors of the '246 patent knew of a mode of practicing their claimed invention that they considered better than any other. Defendants argue that at the time the inventors knew that the best mode of the invention included an automatic range reduction ("ARR") in fastest mode and also the ability to turn off the periodic noise search ("PNS") algorithm. With respect to ARR, defendants have presented the following evidence:[5]

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5. Defendants also presented Kustom's Golden Eagle radar User Manual, copyright 1993, which states that ARR "rids in proper target (Cont'd)

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1. On May 13, 1994, Henderson, one of the inventors of the '246 patent, noted that the radar was revised to add ARR in fastest mode "to make unit more useful." Pl.'s Exh. 9 at 1094.

2. Henderson testified that the purpose of ARR was to prevent an officer from mistaking a closer car as the car generating the fastest target speed display when the actual fastest vehicle that was generating the displayed fastest target speed was much farther away. *See* Henderson Depo. at 76-78, 246.

3. At the time the '246 patent was filed, ARR was the chosen way to do the fastest search. Henderson testified that he would choose the method that the experienced staff at Kustom and operators told him would be "best" and that he, along with others, chose to put out a commercial radar with ARR. *See* Henderson Depo. at 247-48.

4. Henderson testified that reduction in range of the radar is one of the key elements in suppressing or eliminating the display of false targets. *See* Henderson Depo. at 300.

(Cont'd)
identification, prevents display of far distant vehicles when intended vehicle is closer to radar." *See* Defs' Exh. 404 at 7.7, 7.11. Defendants did include this reference in their statement of facts regarding the PNS algorithm, but not in connection with the ARR disclosure issue. The Court therefore disregards this reference in the ARR context.

Kustom points out that Henderson also testified that ARR did not help screen out false fastest targets and that Kustom used ARR based on the opinion of sales and marketing employees that operators preferred the function. *See* Henderson Depo. at 246-52, 281, 337-38, 410. Henderson's testimony, when viewed in the light most favorable to Kustom, creates a factual question whether he personally considered ARR part of the best mode. On the other hand, his testimony is not so one-sided that Kustom must prevail on the issue as a matter of law. For these reasons, both motions for summary judgment with respect to validity based on the failure to disclose ARR are overruled.

Defendants also contend that the inventors of the '246 patent radar knew when they filed the patent application that the best mode of the invention included the ability to turn off the PNS algorithm. Kustom's Golden Eagle radar manual, copyright 1993, states that the fan interference filter may be turned off, apparently for those vehicles that do not generate detectable fan noise. *See* Def.'s Exh. 404 at 7.19. The fact that *Kustom* employed the ability to turn off the PNS algorithm in its commercial radar, however, is not conclusive evidence that the *inventors of the '246 patent radar* thought that the best mode included such a function. Defendants attempt to show the inventors' state of mind solely by the '246 patent, which states that the only significant tradeoff of PNS is that the radar may not recognize a target with a frequency essentially equal to one of the harmonics. *See* Joint Exh. A, Col. 9, ll 52-57; *see also* Henderson Depo. at 32-33 (PNS can eliminate actual targets if they are right on top of one of the harmonics). The patent reference, along with the radar manual, do not show that Henderson or the other two

co-inventors thought that the ability to turn off the PNS function was a better way of implementing the algorithm in the '246 patent. In fact, Henderson testified that the PNS function was the best way to decrease harmonics of fan and patrol speed. *See also* Henderson Depo. at 378. In the cited testimony, Henderson did not mention the ability to turn off the PNS function. Absent evidence that he or the other inventors thought that the ability to turn off the PNS function was part of the best mode, defendants' motion for summary judgment on the issue is overruled.

Plaintiff, however, has filed a cross motion for summary judgment on this issue. In response, defendants rely on the evidence noted above. The statements in the Golden Eagle radar manual and the '246 patent, viewed in the light most favorable to defendants, do not raise an issue of material fact regarding the inventors' knowledge that the ability to turn off the PNS function was part of the best mode. Accordingly, plaintiff's motion for summary judgment on the issue is sustained. The Court finds as a matter of law that with reference to the ability to turn off the PNS function, the '246 patent is not invalid for failure to set forth the best mode known to the inventors. The record reveals a genuine issue of material fact whether the inventors knew that the best mode of the invention included ARR in fastest mode, and neither party is entitled to summary judgment on that issue.

B. *Definiteness Requirement*

In addition to the best mode requirement, a patent holder must satisfy the definiteness requirement of the patent statute. The specification must "conclude with one or more claims

particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112 ¶ 2. Claim definiteness depends on "whether one skilled in the art would understand the bounds of the claim when read in light of the specification." *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993), *cert. denied*, 510 U.S. 1100 (1994); *see Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) (definiteness determined in light of complete patent document). "If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." *See Miles*, 997 F.2d at 875. The purpose of the definiteness requirement is to inform the public of the scope of the patent monopoly, not to instruct how to practice the invention. *See Northern Telecom, Inc. v. Datapoint Corp.*, 1988 WL 156280, at *20 (N.D. Tex. Aug. 31, 1988), *rev'd in part on other grounds*, 908 F.2d 931 (Fed. Cir. 1990), *cert. denied*, 498 U.S. 920 (1990). The determination of claim definiteness is a question of law. *See Credle v. Bond*, 25 F.3d 1566, 1576 (Fed. Cir. 1994).

Defendants contend that Claims 1, 16 and 20 of the '246 patent fail the definiteness requirement of 35 U.S.C. § 112 ¶ 2 because they do not include a spectrum validation function. Both plaintiff's technical expert and the inventor who designed the DSP software agree that without the spectrum validation process or some similar process, the radar will find a false fastest target most if not all of the time. The question of definiteness of the '246 patent claims turns on the Court's construction of the language in Claims 1(e), 16(d) and 20(d).

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Judge O'Connor construed the term "criteria," as used in Claims 1(e), 1(f) and 16(d), as "standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator." He construed the term "preselected" in Claims 1(e) and 16(d) as "a selection of criteria which have been programmed into the software and cannot be altered by the operator." Judge O'Connor further noted:

> In this context, criteria cannot refer to the process of validating multiple Doppler return signals and determining their magnitude and frequency, as plaintiff argues, because no single component is identified during this process. Rather, criteria must refer to the process of searching and finding a single target for display. . . . [T]here must be two sets of criteria programmed into the software, only one of which will be used during a search depending on the operator's selection of fastest or strongest mode.

Kustom, 995 F. Supp. at 1238.

Based on the latter language, defendants contend that Claims 1, 16 and 20 omit any spectrum validation process, which is a critical element in the invention. The Court disagrees. Judge O'Connor did suggest — in dicta — that the criteria referenced in Claims 1 and 16 did not include the spectrum validation process. He did not, however, specifically construe the "search" or "searching" claim language of the '246 patent, nor did he consider how 35 U.S.C. § 112 ¶ 6 applied to such language. *See* Claims 1(e),

16(d) and 20(d). In these circumstances, the Court is not bound by Judge O'Connor's explanation as to how exactly he reached his conclusion that "criteria" — as used in Claims 1(e), 1(f) and 16(d) — means "standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator."

Judge O'Connor previously set forth in detail the pertinent claim construction rules. *See Kustom*, 995 F. Supp. at 1234-35. The Court incorporates that discussion by reference.[6] In addition, Claims 1(e), 16(d) and 20(d) of the '246 patent are written in means- or step-plus-function format. Such claim limitations must be construed "to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112 ¶ 6. The claims of the '246 patent may be construed to cover the spectrum validation process outlined in the specification if the "specification or prosecution history clearly links or associates that structure to the function recited in the claim." *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997); *see General Elec. Co. v. United States*, 572 F.2d 745, 752 (Ct. Cl. 1978) (means-plus-function elements "must be interpreted as including all disclosed elements necessary to perform the stated function").

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6. Plaintiff seeks to exclude testimony of Aker which is contrary to Judge O'Connor's claim construction findings. *See Motion In Limine To Exclude Testimony Of John L. Aker Based On Claim Interpretations Contrary To This Court's Findings And Brief In Support* (Doc. #104) filed December 30, 1998. Claim interpretation is a question of law. The Court has therefore considered Aker's claim interpretations only to help understand the police radar technology. Accordingly, plaintiff's motion in limine is overruled.

Appendix C

Kustom argues that the "search" and "searching" means which are disclosed in Claims 1(e), 16(d) and 20(d) include both the spectrum validation process and the subsequent search for a single fastest or strongest target. The term "search" is commonly defined as "to look into or over carefully or thoroughly in an effort to find something." *Webster's Third New Int'l Dictionary (Unabridged)* at 2048 (1986). A careful and thorough search for a single fastest or strongest target obviously includes elimination of false targets and unwanted harmonics. *See id.* ("to look through or explore thoroughly esp. by checking on possible places of concealment or investigating circumstances possibly leading to something being overlooked"). Other than in Claims 1(e), 16(d) and 20(d), no search means is identified in the independent claims of the '246 patent. Accordingly, these claims must be construed to cover the disclosed structure for validating the frequency components.

The format of the claims, and the corresponding flow chart drawing, also support a conclusion that the spectrum validation process is part of the search and searching means of the '246 patent. Claims 1(d), 16(c) and 20(cl), which immediately precede the search and searching means claims, refer to means for storing a spectrum that includes frequency components which correspond to Doppler return signals. These claims clearly refer to Box 14 of the '246 patent flow chart titled "copy averaged spectrum." Someone of ordinary skill in the art would interpret the claims which immediately follow these claims as referring to the disclosed structure which starts in Box 15 of the '246 patent flow chart and continues in Figures 18 to 28 and 30 to 32. The structure disclosed in these figures is associated with the search and searching means of Claims 1(e), 16(d) and 20(d).

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The '246 patent specification discloses a radar that performs both initial processing to qualify strongest and fastest targets and a subsequent search to identify the single fastest or strongest target. The specification discloses a number of "searches" which are conducted in the initial processing stage before the radar reads the fastest/strongest flag. *See* '246 flow chart boxes 43 ("patrol vehicle pattern search"); 57, 58 ("periodic noise search algorithm"); 73 ("harmonic search"); 132 ("patrol signature search"). Moreover, the patent specification states that an important object of the invention is "to provide a frequency spectrum containing the Doppler components which may be *examined in accordance with the operational mode selected*, and which may be processed to eliminate frequency components caused by interference or unwanted harmonics." Joint Exh. AA, Col. 2, ll 18-23 (emphasis added). Further, the specification states that "[b]y utilizing an algorithm to search and recognize this type of harmonic pattern in the frequency domain, *the DSP can effectively search the frequency spectrum*, discover and eliminate the majority of the fan caused harmonic peaks." *Id.*, Col. 9, ll 53-57 (emphasis added); *see also id.*, col. 9-10 (describes search of frequency peaks for all assumed harmonics). All of the examining, processing and searching which is disclosed in the '246 patent flow chart, after the spectrum of frequency components corresponding to Doppler return signals has been stored (except for Figures 29 and 33), is clearly linked to the function of searching the spectrum for a single fastest or strongest target based on preselected magnitude and frequency criteria. Thus, the "search" and "searching" means in claims 1(e), 16(d), and 20(d) must cover both the initial qualification of targets and the subsequent identification of a single fastest or strongest target. *See Abbott Labs.*, 124 F.3d at 1424.

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The Court agrees with Judge O'Connor's prior construction that "criteria" means "standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator." The "standards" referred to in this definition include the spectrum validation process and the elimination of unwanted harmonics. In other words, some of the standards used for fastest and strongest searches are identical. Nothing in the '246 patent precludes overlap between the fastest and strongest target criteria. *Cf. Kustom*, 995 F. Supp. at 1238 ("[T]here must be two sets of criteria programmed into the software, only one of which will be used during a search depending on the operator's choice of fastest or strongest mode."). Both the initial process of qualifying the spectrum and the subsequent identification of a single target are necessary to the claimed invention. Therefore, both processes are properly included in the search and searching means of Claims 1(e), 16(d) and 20(d). *See General Electric*, 572 F.2d at 752.

Equally to the point, notwithstanding their current position on the issue, defendants have all but conceded that the independent claims of the '246 patent include the spectrum validation process. In December 1997, defendants admitted that including the spectrum validation process in claims 1(c), 16(b) and 20(b) is supported by the plain language of the claims, the specification, and the prosecution history. *See Defendants' Interpretation Of Claims 1, 16 And 20 Of The Kustom '246 Patent* (Doc. #63) filed Dec. 10, 1997, at 2, 4, 6, 7-8 n. 1, 9-10 n. 4. Indeed, in their briefing on the infringement issue, defendants argued that differences between the Stalker Dual and the '246 patent in screening false fastest targets caused by harmonics and intermodulation

products go to the "heart of the '246 claims" and illustrate different "search criteria" of Claims 1(e) and 16(d). *See Defendants' Reply In Support Of Its Motion For Summary Judgment On The Issue Of Doctrine Of Equivalents* (Doc. #142) filed Apr. 7, 1999, at 10. In their briefing on the best mode requirement, defendants argue that automatic range reduction is a better way of doing a fastest search, which is clearly part of the claimed invention. *See Reply Memorandum In Support Of Defendants' Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent And In Opposition To Plaintiff's Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent* (Doc. #141) filed Apr. 7, 1999, at 9-11. In drawing this conclusion, defendants refer to Figure 18 of the '246 patent flow chart which shows both reading a range sensitivity factor selected by the operator (box 15 of '246 flow chart) and the spectrum validation process of calculating a 33 point moving average (boxes 17-22). If reading the range factor is part of the claimed invention, as defendants maintain, the spectrum validation process also is included in the invention.

Finally, defendants claim that plaintiff is estopped from arguing that Claims 1 and 16 include the spectrum validation process because plaintiff specifically gave up the validation function during the prosecution history. The Court disagrees. First, prosecution history estoppel is pertinent only with respect to the doctrine of equivalents infringement inquiry, not to claim interpretation. *See Southwall Techs. Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1578 (Fed. Cir.) ("There is, however, a clear distinction between following the statements in the prosecution history in defining a claim term, and the doctrine of prosecution history estoppel, which limits

expansion of the protection under the doctrine of equivalents when a claim has been distinguished over relevant prior art."), *cert. denied*, 516 U.S. 987 (1995); *Markman*, 52 F.3d at 979 (prosecution history cannot enlarge, diminish or vary claim limitation). Moreover, defendants have not shown that Kustom gave up the validation function as part of the search and searching means for finding a strongest or fastest target. The original patent application did include Claims 1(c) and 16(c), which were directed to a spectrum validation process. *See* Original Claim 1(d) ("validating said frequency components present in said spectrum by determining if each component has a greater magnitude than an average magnitude representative of the sensitivity of the spectrum"); Original Claim 16(c) ("means for determining if each of said components has a greater magnitude than an average magnitude representative of the sensitivity of the spectrum, whereby to validate those frequency components having said greater magnitude"). Issued Claims 1 and 16 did not include these clauses but they added claims which were directed to a means for searching the spectrum of frequency components for a single fastest or strongest target based on preselected criteria. Based on the meaning of issued Claims 1(e), 16(d) and 20(d), discussed above, Kustom apparently deleted the specific reference to a validation process from Claims 1 and 16 because the structure was adequately linked to the search and searching means clauses of the issued claims. Regardless of Kustom's reason, however, it did not make specific statements regarding the meaning of the search means in the claims of the patent. Accordingly, prosecution history estoppel does not bar Kustom from asserting that the spectrum validation process remains in the issued claims of the '246 patent.

Based on the above construction of the search and searching means in Claims 1(e), 16(d) and 20(d), Kustom disclosed the spectrum validation process in the '246 patent. Kustom has claimed an operable invention and satisfied the definiteness requirement of 35 U.S.C. § 112 ¶ 2 as a matter of law. Defendants' motion for summary judgment on the issue is therefore overruled. Given that plaintiff has satisfied the definiteness requirement as a matter of law, plaintiff's cross motion for summary judgment on the issue is sustained. The Court determines as a matter of law that the '246 patent is not invalid for failure to distinctly define the subject matter which the inventors regarded as the invention.

II. Infringement — Doctrine Of Equivalents.

The Court held previously that the Stalker Dual radars do not literally infringe any of the independent claims of the '246 patent. *See Kustom*, 995 F. Supp. at 1239-40. That determination is the law of the case and the Court declines plaintiff's request to revisit the issue.[7] Plaintiff argues that the Court relied upon erroneous factual findings in its prior holding that the Stalker Dual radars did not literally infringe

7. Because the Court has already decided the issue, defendants seek to exclude expert testimony of Thomas J. Herrick which relates to defendants' infringement of the selective display element of the '246 patent. *See Motion In Limine: Expert Testimony* (Doc. #100) filed December 30, 1998. The Court has held that the selective display element was not literally met by the Stalker Dual radars, but it did not decide whether the Stalker Dual radars contained an equivalent element. *See Kustom*, 995 F. Supp. at 1239-40. Accordingly, the Court has considered Herrick's opinions only to the extent they relate to infringement under the doctrine of equivalents. Defendants' motion to exclude Herrick's opinions is overruled.

the '246 patent. The Court based its findings, however, on statements of fact which plaintiff either admitted or did not dispute. Plaintiff cannot now claim that those findings were erroneous.[8]

Even if an accused device does not literally satisfy all of the limitations of a patent, however, infringement may be found under the doctrine of equivalents. *See Warner-Jenkinson Co., Inc. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 29-30 (1997), *rev'g*, 62 F.3d 1512, 1517 (Fed. Cir. 1995). The doctrine of equivalents rests on the rationale that limiting enforcement of patent rights to literal infringement may be harsh in some circumstances and "would place the inventor at the mercy of verbalism." *Warner-Jenkinson*, 62 F.3d at 1517 (quoting *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950)).

Judge O'Connor denied defendants' original motion for summary judgment on infringement under the doctrine of equivalents:

> Here, defendants have failed to establish as a matter of law that its Stalker Dual radars do not infringe claims 1, 16, and 20 of the '246 patent under the doctrine of equivalents. Although we held above that the '246 patent does not read exactly on defendants' Stalker Dual radars, we

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8. Defendants ask the Court to strike plaintiff's expert reports, to the extent that they cover the literal infringement issue. Given the substantial overlap between the two infringement inquiries, the Court has considered plaintiff's expert reports — but only to the extent that they address infringement under the doctrine of equivalents.

cannot conclude that the differences between the elements of the Kustom and Stalker Dual radars are not "insubstantial" as a matter of law. Based on the conflicting evidence presented by the parties, particularly the experts' reports and testimony presented by the parties, there remains an issue of fact as to whether the Stalker Dual radars perform substantially the same functions in substantially the same ways to achieve substantially the same results as the Kustom radar.

The court notes that evidence of the known interchangeability of the Stalker Dual radars' element of searching and displaying both the fastest and strongest targets with the element of the '246 patent of searching and displaying either the fastest or strongest target may be important in determining whether defendants' Stalker Dual radars infringe plaintiff's patent. Moreover, the court notes that the doctrine of equivalents cannot be used to erase "meaningful structural and functional limitations of the claim[s]" in the '246 patent. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997). At this point, given the limited briefing on the issue and the remaining disputed factual issues, the court cannot conclude as a matter of law whether application of the doctrine of equivalents to defendants' Stalker Dual radars would erase functional limitations of the '246 patent or merely combine two separate elements already disclosed in the '246 patent, *i.e.*, fastest and strongest searches.

Appendix C

> Defendant has pointed to a number of differences between the Stalker Dual radars and the '246 patent. For example, defendants argue that the Stalker Dual radars can perform both a fastest and strongest target search and display from the same set of data while the '246 patent must collect a new set of data if the operator wishes to change modes. Although this may be a difference, there is a factual dispute as to whether this difference is substantial for purposes of the doctrine of equivalents analysis. The factual record is not so one-sided that the court can resolve the issue as a matter of law. *See Anderson*, 477 U.S. at 251-52.

Kustom, 995 F. Supp. at 1240-41.

As an initial matter, plaintiff requests reconsideration of Judge O'Connor's construction of the term "or" in the '246 patent. Judge O'Connor defined "or" as "a choice between either one of two alternatives, but not both." The Court adheres to this definition, which is consistent with the ordinary meaning of the term, the language of the claims, the specification, and the prosecution history. *See Kustom*, 995 F. Supp. at 1236-37 (D. Kan. 1998). Moreover, the notice function of patents is best served by the definition. *See id.* at 1237 (quoting *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996)). Finally, plaintiff has not satisfied the standards for reconsideration of a prior ruling. Plaintiff has not shown an intervening change in controlling law, availability of new evidence or the need to correct clear error or prevent manifest injustice. *See Shinwari*

v. Raytheon Aircraft Co., 25 F. Supp.2d 1206, 1208 (D. Kan. 1998). Plaintiff's request for reconsideration also is untimely pursuant to D. Kan. Rule 7.3(b) because it was not filed within ten days of the entry of the order.

In determining whether defendants have infringed the '246 patent, the Court first notes that after the '246 patent was issued, Aker obtained a patent which covered the accused Stalker Dual radars. *See* Joint Exh. II, U.S. Patent No. 5,691,724 (the " '724 patent"). In the prosecution history of the '724 patent, defendants specifically disclosed the '246 patent as prior art and stated that the '246 patent "[t]eaches a digital FFT based Doppler traffic radar that can selectively find either the strongest radar return signal and display the speed thereof or, upon a command from the operator, finds the highest frequency Doppler radar return signal which has a nonzero amplitude and calculates and displays the speed thereof as indicative of the speed of the fastest target." Joint Exh. HH, '724 Patent Prosecution History, Information Disclosure Statement filed Aug. 8, 1996, at 2. Nevertheless, the PTO issued Aker a patent. Though not conclusive, the issuance of the '724 patent after disclosure of the '246 patent as prior art is entitled to due weight in determining whether defendants' Stalker Dual radar infringes the '246 patent. *See Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1570 (Fed. Cir. 1996); *National Presto Indus., Inc. v. West Bend Co.*, 76 F.3d 1185, 1191-92 (Fed. Cir. 1996).

In addition to showing that the '246 radar and the Stalker Dual radar are equivalent in fact, Kustom must clear three preliminary legal hurdles. First, the doctrine of equivalents may not be invoked unless the all-elements (or all-limitations)

rule is satisfied, *i.e.* every claimed element or its equivalent must be contained in the accused device. *See Warner-Jenkinson*, 520 U.S. at 39 n.8; *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 172 F.3d 1361, 1370 (Fed. Cir. 1999); *Ethicon*, 149 F.3d at 1316. Second, prosecution history estoppel may bar a patent holder who limits one of its claims to avoid rejection by the PTO and then seeks to expand the claims under the doctrine of equivalents to include the subject matter previously excluded. *See Warner-Jenkinson*, 520 U.S. at 39 n.8; *Festo*, 172 F.3d at 1371-74. Third, the doctrine of equivalents cannot be used to encompass subject matter that the patent holder could not have patented at the time of the original patent application, *i.e.* the range of equivalents cannot be so broad as to ensnare the prior art. *See Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 683 (Fed. Cir.), *cert. denied*, 498 U.S. 992 (1990). In the instant motions, defendants have raised the first and third grounds as a legal bar to a finding of infringement under the doctrine of equivalents.[9]

A. *All-Elements Rule*

The purpose of the all-elements rule is to ensure that the doctrine of equivalents "is not allowed such broad play as to

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9. Defendants previously raised the defense of prosecution history estoppel but Judge O'Connor rejected it. *See Kustom*, 995 F. Supp. at 1241. Defendants have not reasserted the defense in the instant motions. Plaintiff's *Motion In Limine to Exclude Evidence And Testimony Regarding Doctrine Of Prosecution History Estoppel And Brief In Support* (Doc. #103) filed December 30, 1998, is therefore moot.

effectively eliminate [an] element [of a claim] in its entirety." *Warner-Jenkinson*, 520 U.S. at 29; *see Sage*, 126 F.3d at 1425 (doctrine of equivalents cannot erase meaningful structural and functional limitations); *Conopco, Inc. v. May Dep't Stores Co.*, 46 F.3d 1556, 1562 (Fed. Cir. 1994) (same), *cert. denied*, 514 U.S. 1078 (1995). Although the accused device must contain every element or its equivalent, each element need not be present in a corresponding component, although that is often the case. *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1259 (Fed. Cir. 1989). In other words, "the doctrine of equivalents does not require a one-to-one correspondence between the accused device and that disclosed in the patent." *Intel v. United States Int'l Trade Comm'n*, 946 F.2d 821, 832 (Fed. Cir. 1991). Elements of the patented invention may be combined in some circumstances without loss of equivalency. *See Sun Studs, Inc. v. ATA Equip. Leasing Inc.*, 872 F.2d 978, 989 (Fed. Cir. 1989), *overruled on other grounds*, *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1038-39 (Fed. Cir. 1992).

Every element of a claim is considered meaningful and essential. *See Warner-Jenkinson*, 520 U.S. at 29; *Pennwalt*, 833 F.2d at 935. One of the elements of Claims 1, 16 and 20 is that the radar searches and displays either the strongest or fastest target but not both. *See* Claims 1(e), 1(f), 16(d), 16(e), 20(d), and 20(e); *Kustom*, 995 F. Supp. at 1236 ("or" means "a choice between either one of two alternatives, but not both"). This selective display element, or its equivalent, is absent from the Stalker Dual radar — which is capable of searching and displaying both the strongest and fastest targets based on the same set of data. To find the Stalker Dual radar

equivalent to the claimed invention would eliminate the "or" element of Claims 1, 16 and 20. *See Warner-Jenkinson*, 520 U.S. at 29; *Wiener v. NEC Elects., Inc.*, 102 F.3d 534, 541 (Fed. Cir. 1996) (doctrine cannot embrace matter specifically excluded by claims); *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1994) (doctrine of equivalents not a license to ignore claim limitations). The Federal Circuit has held:

> [A]ny analysis of infringement under the doctrine of equivalents necessarily deals with subject matter that is "beyond," "ignored" by, and not included in the literal scope of a claim. Such subject matter is not necessarily "specifically excluded" from coverage under the doctrine *unless its inclusion is somehow inconsistent with the language of the claim.* Literal failure to meet a claim limitation does not necessarily amount to "specific exclusion."

Ethicon Endo-Surgery v. United States Surgical Corp., 149 F.3d 1309, 1317 (Fed. Cir. 1998) (emphasis added). The Stalker Dual radar, which provides for search and display of both strongest and fastest targets, is inconsistent with the '246 patent claims which disclose a radar that can search and display either strongest or fastest targets but not both. *See id.*; *Wiener*, 102 F.3d at 541 (equivalency cannot embrace structure specifically excluded from claims); *Dolly*, 16 F.3d at 400 (same).

Plaintiff argues that at a minimum, the Stalker Dual radar infringes in strongest mode because only the strongest target

is displayed. The Federal Circuit has held that if an accused device uses the claimed method even part of the time, it infringes. *See Bell Communications Res. v. Inc. Vitalink Communications Corp.*, 55 F.3d 615, 622-23 (Fed. Cir. 1995). Plaintiff attempts to dissect the selective element of the '246 patent so that an accused radar which displays only the strongest target is equivalent regardless of its further capability of displaying the fastest target. Plaintiff's claimed method essentially contains two limitations — (1) display of strongest target only and (2) display of fastest target only. The Stalker Dual radar never uses the method of Claims 1, 16 and 20 because it is unable to display the fastest target without also displaying the strongest target. *See Perkin-Elmer*, 822 F.2d at 1532 (court should not convert multi-limitation claim to one of two limitations to find equivalency). Moreover, as noted above, the Stalker Dual radar has the capability of searching and displaying both fastest and strongest targets — a capability which is inconsistent with and excluded by the selective display element of the '246 patent.

Kustom argues that the Stalker Dual radars infringe in fastest mode when the strongest target is equal to the fastest target. In this situation, Kustom maintains that the Stalker Dual radars meet the selective display element because the radar displays only a single target. In making this argument, Kustom ignores the fact that the speed displayed is that of the strongest target, not the fastest target. The speed is shown in the strongest target window and the audio heard by the operator corresponds to the strongest target. Moreover, a fastest target, as defined by the source code of the Stalker Dual radars, must be at least one unit greater than the

displayed strongest speed or the fastest speed will not be displayed. In addition, a fastest target will not be displayed unless a qualified strongest target is displayed. In Kustom's hypothetical scenario, no fastest target is identified or displayed. Accordingly, Kustom has not shown that the Stalker Dual radars display the fastest target without also displaying the strongest target.

Kustom next contends that the '246 patent is a "pioneer invention" because it was the first DSP radar which determined and displayed the speed of a fastest target vehicle even if that vehicle did not have the strongest radar return signal. A pioneer invention is defined as "a function never before performed, a wholly novel device, or one of such novelty and importance as to mark a distinct step in the progress of the art, as distinguished from a mere improvement or perfection of what had gone before." *Boyden Power Brake Co. v. Westinghouse*, 170 U.S. 537, 561-62 (1898). Whether the '246 patent enjoys pioneer status depends on the disputed factual question whether defendants' Stalker Dual radar is part of the prior art. *See infra*, Section II. B., Prior Art As Limit To Range Of Equivalents; *Stairmaster Sports/Med. Prods., Inc. v. Groupe Procycle, Inc.*, 25 F. Supp.2d 270, 284-85 (D. Del. 1998) (pioneer status is question of fact). This factual dispute does not preclude summary judgment, however, because plaintiff has not satisfied the all-elements rule. Although a broader range of equivalents is available to pioneer inventions, the accused device still must contain every element of the claimed invention or its equivalent. *See Warner-Jenkinson*, 520 U.S. at 29 (doctrine of equivalents cannot eliminate an element of a claim in its entirety); *see also Texas Instruments, Inc. v. United States Int'l Trade*

Comm'n, 846 F.2d 1369, 1370 (Fed. Cir. 1988) (pioneer status "does not change the way infringement is determined"). An accused device is not equivalent to a pioneer invention if it contains matter specifically excluded by an element of the patented invention. In addition, the selective display element of the '246 patent is not directly related to its alleged pioneer status, *i.e.* finding a fastest target vehicle even if the vehicle does not have the strongest return signal.

For the above reasons, the Court concludes that Kustom has failed to satisfy the all-elements rule. A finding that the Stalker Dual radars infringe the '246 patent under the doctrine of equivalents is therefore precluded as a matter of law.

B. *Prior Art As Limit To Range Of Equivalents*

Defendants maintain that Kustom cannot invoke the doctrine of equivalents to cover the Stalker Dual radar because its invention also would cover prior art. Kustom bears the burden to prove that the range of equivalents which it seeks would not encompass prior art.[10] *See Wilson*, 904 F.2d at 685. Defendants have the initial burden, however, of

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10. Kustom apparently contends that the Stalker Dual radars infringe under the doctrine of equivalents because hypothetical claims can be constructed that are allowable over the prior art and literally cover the Stalker Dual in fastest mode. *See Memorandum In Support Of Plaintiff's Motion For Summary Judgment Of Infringement Of U.S. Patent No. 5,528,246* (Doc. #123) filed Mar. 1, 1999, at 45-46. The hypothetical claim analysis, however, only determines if prior art is a legal bar to a finding of infringement under the doctrine of equivalents. *See Wilson*, 904 F.2d at 684. A finding of infringement is not required if plaintiff clears this preliminary hurdle.

proving that a particular device is part of the prior art. *See Streamfeeder, LLC v. Sure-Feed Sys., Inc.*, __ F.3d __, 1999 WL 225783, at *7 (Fed. Cir. Apr. 20, 1999). Defendants contend that from 1992 to 1994, the Police Department of Parker, Texas used a version of the Stalker Dual radar, the "29F radar," and that this device should be considered prior art. Plaintiff has presented sufficient evidence to create an issue of material fact on this point. First, in 1998, John Kusek, Kustom's CEO, operated the department's only Stalker Dual radar and it did not have fastest capability at that time. Moreover, the only contemporaneous documentation is the source code of the 29F radar. The source code, standing alone, does not establish that such a radar was built or used in 1992. Finally, all of the testimony regarding the use of the 29F radar is from interested parties. Based on the present record, defendants have not shown that Kustom's proposed range of equivalents is so broad to encompass prior art.

C. *Equivalency In Fact*

Even if plaintiff could satisfy the all-elements rule, the Court finds that no reasonable trier of fact could find that the Stalker Dual radar is equivalent in fact to the '246 radar.[11] To prevail on a claim of infringement under the doctrine of equivalents, a patentee must prove by a preponderance of the evidence that "the differences between the claimed and accused products or processes are insubstantial." *Warner-Jenkinson*, 62 F.3d at 1517. The Court assesses the

11. The test for compliance with the all-elements rule, which is a question of law, can overlap to a substantial degree with the test for equivalency in fact. The Federal Circuit, however, treats the two questions as separate inquiries. *See Festo*, 172 F.3d at 1370.

substantiality of the differences between two products "according to an objective standard" viewed from "the vantage point of one of ordinary skill in the relevant art." *Id.* at 1519. The doctrine of equivalents is applied on an element-by-element basis, not to the invention as a whole. *See Warner-Jenkinson*, 520 U.S. at 29.

The traditional measure of equivalency is the "function-way-result" test.[12] *See Warner-Jenkinson*, 62 F.3d at 1518-21. It focuses on whether an element of an accused device performs substantially the same function in substantially the same way to achieve substantially the same result as each element of the claimed device. *See id.* at 1518. The Federal Circuit has noted other relevant inquiries. For example, the substantiality of differences may be measured by "whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was." *Id.* at 1518; *see Warner-Jenkinson*, 520 U.S. at 36; *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1261 (Fed. Cir. 1989). "Known interchangeability" of an element in the accused device with a claimed element is "potent evidence that one of ordinary skill in the relevant art would have considered the change insubstantial." *Warner-Jenkinson*, 62 F.3d at 1519. Known interchangeability is evaluated at the time of infringement,

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12. Kustom suggests that the function-way-result test may provide a poor framework to analyze police traffic radars and other inquiries should be considered. *See Memorandum In Opposition To Defendants' Motion For Summary Judgment On The Issue Of Infringement Of The '246 Patent* (Doc. #131) filed Mar. 24, 1999, at 48 n.3. Other than "known interchangeability," Kustom fails to identify any such inquiries.

not at the time the patent was issued. *See Warner-Jenkinson*, 520 U.S. at 37.

As discussed with respect to the all-elements rule, the Stalker Dual and '246 radars do not perform substantially the same functions.[13] The Stalker Dual radar is capable of displaying both fastest and strongest targets based on the same set of data while the '246 radar selectively displays either fastest or strongest targets but not both. Accordingly, the two radars perform substantially different functions which produce different displays to the radar operator.

Despite the complexity of the overall device, the selective display element of the '246 patent is relatively simple — either A or B, but not both. Plaintiff has not shown any "subtlety of language or complexity of the technology, nor any subsequent change in the state of the art, such as later-developed technology, [which] obfuscated the significance of this limitation at the time of its incorporation into the

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13. Defendants move to strike the expert report of Gregory Upchurch because plaintiff did not timely disclose him as an expert. *See Defendants' Motion To Exclude Testimony Of Expert Gregory Upchurch* (Doc. #87) filed November 18, 1998. Plaintiff designated Upchurch as a rebuttal expert and served his report on October 28, 1998. Defendants argue that Upchurch is actually a new liability expert and should have been timely designated as such. Although only a portion of his expert report rebuts defendants' expert reports, the Court has considered it because defendants had ample opportunity to respond. The Court also rejects defendants' contention that the report is not helpful. Upchurch is skilled in the relevant art and his testimony would assist the trier of fact determine the substantiality of differences between the two radars. Defendants' motion is therefore overruled.

claim." *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997); *see Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 938 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988). The change from a radar device that could perform either A or B but not both to a radar that could perform A and B involved the mere addition of a "link." *See Declaration of Thomas J. Herrick* (Doc. #124) filed Mar. 1, 1999 at 25. Plaintiff could have foreseen the alteration of the patented invention from "or" to "and." Indeed, plaintiff claims that it intended to patent a fastest feature that would display the fastest target "either in lieu of the strongest target vehicle or in addition to the strongest vehicle's speed." Kusek Depo. at 25-28; *see Memorandum In Support Of Plaintiff's Motion For Summary Judgment Of Infringement Of U.S. Patent No. 5,528,246* (Doc. #123) filed Mar. 1, 1999 at 44 (Stalker Dual in fastest mode merely combines known strongest function with known fastest function). Despite plaintiff's apparent attempt to draft an "and/or" claim, plaintiff must accept the limited "or" claim it obtained from the PTO. "[A]s between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure." *Sage*, 126 F.3d at 1425.

In addition to the different displays of the two radars, the radars calculate target speeds in substantially different ways which produces substantially different results.[14] As

14. This difference alone may be insufficient to warrant summary judgment in favor of defendants, but when combined with the different display capabilities discussed above, the Court finds that no reasonable trier of fact could find that the differences between the two radars are insubstantial.

explained in detail in the Factual Background, *supra*, section E, the Stalker Dual radars eliminate false targets and unwanted harmonics in substantially different ways to achieve substantially different displayed target speeds. In some circumstances, the Stalker Dual radar will not display any target while the '246 radar may display a false target. In other situations, the Stalker Dual radar conducts different processing of the FFT spectrum to avoid "look through" and "blind spot" problems present in the '246 radar. Even if the '246 invention is considered a "pioneer invention," no reasonable trier of fact could find that the differences between the two radars are insubstantial.

Kustom essentially concedes that the two radars calculate target speeds in substantially different ways to produce different results. Kustom argues, however, that these differences in the Stalker Dual radar merely reflect additional functions to those performed by the '246 radar. One of the purposes of the '246 patent is to provide a radar that "improve[s] target identification and minimize[s] interference and unwanted harmonics." Joint Exh. AA, Col. 1, ll 11-13. Moreover, the "search" and "searching" means of 1(e), 16(d) and 20(d) include the spectrum validation process disclosed in the '246 flow chart. Kustom cannot argue that the validation of targets is part of the claims for validity purposes but not part of the claims for infringement purposes. The differences in the calculation and display of target speeds relate to the "search" and "searching" means of the independent claims of the '246 patent. ACI has not simply added to the spectrum validation process disclosed in the '246 patent, it has produced a radar with a substantially different validation process which produces different results for the operator.

Finally, the Court evaluates the known interchangeability of the Stalker Dual and '246 radars. Kustom has not presented any evidence that those of ordinary skill in the art knew that the Stalker Dual's spectrum validation process was interchangeable with the '246 radar's spectrum validation process. With respect to the selective display element of the '246 patent, Kustom maintains that dual display capability is disclosed in the '246 patent because each individual display is shown in the patent. The Court already held that the '246 patent does not disclose dual display of fastest and strongest targets based on the same set of data. Kustom has not presented any evidence regarding the complexity of the "link" technology to combine fastest and strongest target displays. To the extent such technology existed at the time of the '246 patent application, as Kustom apparently argues, Kustom should have drafted a broader claim to include this technology.

For the above reasons, the Court finds that Kustom's claim of infringement under the doctrine of equivalents is barred by the all-elements rule and that no reasonable trier of fact could find that the Stalker Dual radars are equivalent in fact to the '246 patent.

In sum, the Court has previously held that defendants did not literally infringe the '246 patent. *See Kustom*, 995 F. Supp. at 1239-40. The Court finds as a matter of law that the Stalker Dual radars do not infringe the '246 patent under the doctrine of equivalents. It therefore sustains defendants' motion for summary judgment of non-infringement of the '246 patent under the doctrine of equivalents and overrules plaintiff's motion on the issue.

Appendix C

The Court also finds as a matter of law that with reference to the ability to turn off the PNS function, the '246 patent is not invalid for failure to set forth the best mode known to the inventors, or for failure to distinctly define the subject matter which the inventors regarded as the invention. The Court therefore sustains plaintiff's motion for summary judgment on these claims. The record reveals a genuine issue of material fact whether the inventors knew that the best mode of the invention included ARR in fastest mode, and neither party is entitled to summary judgment on that issue. Accordingly, the trial will determine whether the '246 patent is invalid for failure to set forth the best mode known to the inventors with respect to automatic range reduction. The pretrial order identifies several other validity defenses which remain for trial, *i.e.* anticipation and obviousness of the '246 patent based on prior act.

IT IS THEREFORE ORDERED that *Defendants' Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent* (Doc. #116) filed February 26, 1999, be and hereby is **OVERRULED.**

IT IS FURTHER ORDERED that *Defendants' Motion For Summary Judgment On The Issue Of Infringement Of The '246 Patent* (Doc. #119) filed February 26, 1999, be and hereby is **SUSTAINED.**

IT IS FURTHER ORDERED that *Plaintiff's Motion For Summary Judgment Of Infringement Of U.S. Patent No. 5,528,246* (Doc. #122) filed March 1, 1999, be and hereby is **OVERRULED.**

Appendix C

IT IS FURTHER ORDERED that *Plaintiff's Cross Motion For Summary Judgment Of Validity Of The '246 Patent* (Doc. #130) filed March 24, 1999, be and hereby is **SUSTAINED in part and OVERRULED in part.**

IT IS FURTHER ORDERED that *Defendants' Motion To Exclude Testimony Of Expert Gregory Upchurch* (Doc. #87) filed November 18, 1998, be and hereby is **OVERRULED.**

IT IS FURTHER ORDERED that defendants' *Motion In Limine: Expert Testimony* (Doc. #100) filed December 30, 1998, be and hereby is **OVERRULED.**

IT IS FURTHER ORDERED that plaintiff's *Motion In Limine to Exclude Evidence And Testimony Regarding Doctrine Of Prosecution History Estoppel And Brief In Support* (Doc. #103) filed December 30, 1998, be and hereby is **OVERRULED as moot.**

IT IS FURTHER ORDERED that plaintiff's *Motion In Limine To Exclude Testimony Of John L. Aker Based On Claim Interpretations Contrary To This Court's Findings And Brief In Support* (Doc. #104) filed December 30, 1998, be and hereby is **OVERRULED.**

Dated this 18th day of June, 1999, at Kansas City, Kansas.

s/ Kathryn H. Vratil
KATHRYN H. VRATIL
UNITED STATES DISTRICT JUDGE

APPENDIX D — *NUNC PRO TUNC* MEMORANDUM AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF KANSAS DATED AND FILED JUNE 29, 1999

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

CIVIL ACTION
No. 96-2296-KHV

KUSTOM SIGNALS INC.,

Plaintiff,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants.

MEMORANDUM AND ORDER

In the Court's Memorandum and Order (Doc. #146) filed June 18,1999, the Court stated on page 40, lines 21-23 that "**IT IS THEREFORE ORDERED** that Defendants' Motion For Summary Judgment On The Issue of Validity Of The '246 Patent (Doc. #116) filed February 26, 1999, be and hereby is **SUSTAINED in part and OVERRULED in part.**" The sentence should read:

> **IT IS THEREFORE ORDERED** that Defendants' Motion For Summary Judgment On The Issue Of Validity Of The '246 Patent

(Doc. #116) filed February 26, 1999, be and hereby is **OVERRULED**.

The Court has provided the Clerk with a corrected copy of page 40 and the Clerk is directed to substitute the corrected page for the original page 40.

IT IS SO ORDERED.

Dated this 29th day of June, 1999, at Kansas City, Kansas.

s/ Kathryn H. Vratil
KATHRYN H. VRATIL
UNITED STATES DISTRICT JUDGE

APPENDIX E — MEMORANDUM AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF KANSAS DATED AND FILED JULY 27, 1998

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

CIVIL ACTION
No. 96-2296-EEO

KUSTOM SIGNALS INC.,

Plaintiff,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants.

MEMORANDUM AND ORDER

This matter is before the court on plaintiff's motion for reconsideration of partial summary judgment and for sanctions (Doc. #75). After careful consideration of the parties' briefs and submissions, the court is now prepared to rule. For the reasons set forth below, plaintiff's motion for reconsideration will be denied and plaintiff's motion for sanctions will be granted.

Factual Background

The factual background of this matter is set forth in the court's February 9, 1998 Memorandum and Order and is

incorporated by reference. Plaintiff Kustom Signals, Inc. ("Kustom") and defendant Applied Concepts, Inc. ("ACI") manufacture and sell traffic radar and other equipment used by law enforcement agencies. Defendant John L. Aker is an independent contractor who has designed traffic radar for ACI since 1978. Kustom alleges that ACI's Stalker Dual radars infringe Kustom's patent for such a radar device, specifically, U.S. Patent 5,528,246 (the " '246 patent" or "Kustom radar"). On a very general level, both the Kustom and Stalker Dual radars (1) measure the Doppler shift of vehicles within the radar's range, (2) convert the Doppler shift of a reflected signal from an analog signal to a digital signal, (3) use a method called a fast fourier transform to analyze the digital data and transform it into the frequency domain, (4) employ various measures to qualify the data so as to eliminate false signals or noise, and (5) display the speed of the target vehicle for the operator.

On February 9, 1998, the court granted defendants' motion for summary judgment with respect to plaintiff's claim of literal infringement of claims 1, 16, and 20 of the '246 patent. In particular, the court held that while the '246 patent discloses a method and apparatus for the search and display of a single fastest or strongest target (an "or-type" radar), the Stalker Dual radars always perform a search for both a fastest and strongest target (an "and-type" radar). *See* Feb. 9 Order, 995 F. Supp. 1229, 1239. The court denied defendants' motion for summary judgment with respect to plaintiff's claim of infringement under the doctrine of equivalents of the same claims. Kustom moves for reconsideration of the court's February 9 Order based on its discovery of certain representations ACI made in a patent

application for the Stalker Dual radars which was only recently disclosed to Kustom.

On February 10, 1995, ACI filed five patent applications including Serial No. 386,545, which issued as patent No. 5,525,996 (the " '996 patent") on June 11, 1996, and Serial No. 386,552, which issued as patent No. 5,570,093 (the " '093 patent") on October 29, 1996. Prior to issuance of the '093 patent, ACI filed a continuation of the 386,552 application in August 9, 1996, Serial No. 695,333, which issued as the '724 patent on November 25, 1997. The '724 patent became the sixth patent to issue. The description in the specification of the '724 patent is the same as the '996 patent. Mr. Aker stated in an affidavit that the Stalker Dual radars "are structured and work substantially in accordance with the disclosure of the '996 patent."

Kustom's motion is based on defendants' failure to reveal the '724 patent application until February 20, 1998, approximately three months after the patent was issued and eleven days after the court entered its ruling on defendants' motion for summary judgment. ACI notified Kustom of the '724 patent through a general industry-wide notification.

The original '724 patent application disclosed both "and-type" radars and "or-type" radars. The '724 patent application was amended, however, so that it would read on the actual Stalker Dual radars made by ACI. ACI's patent counsel explained this amendment in the file wrapper for the '724 patent:

> Claim 40 has also been amended voluntarily to remove an inaccuracy of the claims since this

> claims covers the commercial embodiment, and the commercial embodiment does not have separate search modes for strongest or fastest and always searches for both the fastest and strongest targets and displays both speeds. The fastest speed display can be turned off, but the computer still finds the fastest target.

In December 1996, ACI answered interrogatory number 8 of Kustom's first interrogatories as follows:

> *Int. No. 8:* State whether or not ACI has sought patent protection for its traffic radar systems that employ digital signal processing, or any components thereof, other than U.S. Patent No. 5,525,996, and, if it has, identify any patents that have issued and any patent applications that have been filed.
>
> *Answer:* Objection, this interrogatory is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving and subject to said objection, *Defendant states that five patent applications have been submitted and patents issued.* Patent numbers are: 5,563,603 5,570,093 5,525,996 5,565,871 5,528,245. (emphasis added).

On July 30, 1997, counsel for Kustom took the deposition of defendant John Aker. The following exchange took place:

> Mr. Chase: What patent or patents have grown out of this contract?

Mr. Aker: There are about five that have come. The first was our 996 patent which was issued in 1996.

Mr. Chase: There's some other patents that have issued also, they were identified in interrogatory answers. I don't happen to have them with me, but have the other four patents issued or are some of them still pending?

Mr. Aker: Well, there may be one or two pending, but there are — I'm told that *there will be five that will issue altogether.*

(Emphasis added).

Analysis

I. Motion For Reconsideration.

A. *Legal Standards.*

A motion for reconsideration is the opportunity for the court to (1) correct manifest errors of law or fact; (2) review newly discovered evidence; or (3) review a prior decision in light of a recent change in the law. *See Cross Timbers Oil Co. v. Rosel Energy, Inc.*, 168 F.R.D. 649, 650 (D. Kan. 1996) (citing *Major v. Benton*, 647 F.2d 110, 112 (10th Cir. 1981)). Appropriate circumstances for a motion to reconsider are where the court has obviously misapprehended a party's position on the facts or the law, or the court has mistakenly

decided issues outside of those the parties presented for determination. *See Anderson v. United Auto Workers*, 738 F. Supp. 441, 442 (D. Kan. 1990); *Refrigeration Sales Co., Inc. v. Mitchell-Jackson, Inc.*, 605 F. Supp. 6, 7 (N.D. Ill. 1983), *aff'd*, 770 F.2d 98 (7th Cir. 1985). A party cannot invoke Rule 59(e) to raise arguments or present evidence that should have been raised in the first instance, or to rehash arguments previously considered and rejected by the court. A party's failure to present its strongest case in the first instance does not entitle it to a second chance in the form of a motion to reconsider. *See Renfro v. City of Emporia, Kan.*, 732 F. Supp. 1116, 1117 (D. Kan. 1990), *aff'd*, 948 F.2d 1529 (10th Cir. 1991). The decision of whether to grant or deny a motion for reconsideration is committed to the court's discretion. *See Hancock v. City of Oklahoma City*, 857 F.2d 1394, 1395 (10th Cir. 1988).

B. *New Evidence.*

Plaintiff argues that new evidence exists — defendants' admissions in their '724 patent application and defendants' inconsistent positions in their patent application and before this court. While defendants' statements in the '724 patent application may be interesting and somewhat damaging to the credibility of defendants' assertions in their motion for summary judgment, the court finds that defendants' statements are not directly relevant to the literal infringement inquiry. "Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly." *Engel Indus., Inc. v. Lockformer Co.*, 96 F.3d 1398, 1405 (Fed. Cir. 1996) (citing *Johnston v. IVAC Corp.*,

885 F.2d 1574, 1580 (Fed. Cir. 1989)). Defendants' own assessment in their patent applications of what the accused device discloses has very marginal relevance to the issue of what limitations actually are found in the accused device. The court concludes that defendants' statements in the original '724 patent application would not alter the court's finding that defendants did not literally infringe plaintiff's patent as a matter of law.

Kustom claims that defendants should be judicially estopped from arguing that the Stalker Dual radars are "and-type" radars. We find that the doctrine of judicial estoppel is inapplicable to the facts of this case. First, Kustom has not cited any authority for the proposition that judicial estoppel applies to previous positions taken by a party before the United States Patent and Trademark Office ("PTO"). *See Devon Indus., Inc. v. American Med. Int'l, Inc.*, 61 F.3d 910, 1995 WL 433951 (9th Cir. July 21, 1995) (finding that patent application does not qualify as a prior judicial proceeding). Judicial estoppel applies, if at all in the Tenth Circuit, to judicial proceedings. *See United States v. 49.01 Acres of Land*, 802 F.2d 387, 390 (10th Cir. 1986) ("Judicial estoppel bars a party from adopting inconsistent positions in the same or related litigation."). Kustom cites a single authority in support of the application of the doctrine of judicial estoppel in this case. *See Smith v. Midland Brake, Inc.*, 911 F. Supp. 1351 (D. Kan. 1995). In *Midland Brake*, the district court concluded that the Tenth Circuit would not find estoppel to be inapplicable where plaintiff, who brought a claim under the Americans with Disabilities Act, previously had argued to the Social Security Administration that he was totally disabled and unable to work. *Id.* at 1360. On appeal,

however, the Tenth Circuit explained that "[w]e wish to make clear that under the law of this circuit, Mr. Smith is not judicially estopped from now making claims that are inconsistent with his prior representations to the SSA. *See United States v. 49.01 Acres of Land*, 802 F.2d 387, 390 (10th Cir. 1986) ("The Tenth Circuit . . . has rejected the doctrine of judicial estoppel."). Hence, any reliance by the district court on an estoppel theory was misplaced." *Smith v. Midland Brake, Inc.*, 138 F.3d 1304, 1312 (10th Cir. 1998). In two other recent cases, the Tenth Circuit has expressed its reluctance to apply judicial estoppel because application of the doctrine often discourages "determination of cases on the basis of the true facts as they might be established ultimately." *Aldrich v. Boeing Co.*, No. 96-3413, __ F.3d __, 1998 WL 351034, at *3 (10th Cir. July 1, 1998) (citations omitted); *see Rascon v. U.S. West Communications*, No. 96-2194, 143 F.3d 1324, 1998 WL 223465 (10th Cir. May 6, 1998). The Tenth Circuit has noted that while inconsistent positions by a party may be relevant to disputed issues, a party's inconsistent positions are not dispositive. *See Aldrich*, 1998 WL 351034 at *3; *Rascon*, 1998 WL 223465, at *9. Moreover, we note that defendants' position before the PTO was temporary and amended so as to conform with the actual operation of the Stalker Dual radars. Defendants' final position taken before the PTO is entirely consistent with the arguments defendants have advanced in the instant action. Finally, Kustom has not established that defendants' original position before the PTO was completely inconsistent with defendants' arguments before this court.

For the above reasons, Kustom's motion for reconsideration will be denied.

Appendix E

II. Motion For Sanctions.

The imposition of sanctions for discovery misconduct is within the discretion of the court. *See National Hockey League v. Metropolitan Hockey Club, Inc.*, 427 U.S. 639, 642 (1976). In determining an appropriate sanction, a court should consider the purposes of imposing sanctions which include deterring future litigation abuse, penalizing present litigation abuse, and compensating victims of litigation abuse. *See id.* at 643; *Resolution Trust Corp. v. Williams*, 162 F.R.D. 654, 660 (D. Kan. 1995). "The sanction to be imposed should be the least severe of those available, which appears adequate to deter and punish the wrongdoer." *Augustine v. Adams*, 169 F.R.D. 664, (D. Kan. 1996) (citing *White v. General Motors Corp., Inc.*, 908 F.2d 675, 685 (10th Cir. 1990), *cert. denied*, 498 U.S. 1069 (1991)); *see Cal Dive Int'l, Inc. v. M/V Tzimin*, 127 F.R.D. 213, 215 (S.D. Ala. 1989) (court should limit discovery sanctions to the least destructive form).

Here, defendant ACI clearly failed to reveal the pending '724 patent application in its interrogatory response. Remarkably, ACI attempts to explain this omission by arguing that "defendants' local counsel in Kansas City that prepared the Interrogatory No. 8 response did not know that there was a pending application as it had been filed by Mr. Ronald C. Fish's office, who is co-counsel in this case, and did not inform the Kansas City counsel of the new patent application filing." Interrogatories are to be answered by *parties*, not attorneys. *See* Fed.R.Civ.P. 33 (titled "Interrogatories to Parties"). ACI has not offered any explanation as to why the individual who answered the interrogatories under oath did not know of the pending patent application. In addition,

defendant Aker failed to reveal the pending patent application in his deposition. Mr. Aker stated in his deposition that there were a total of 5 patent applications and therefore represented that ACI's previous interrogatory response was correct.

Although the information withheld had only marginal relevance to the court's ruling on defendants' motion for summary judgment, such information clearly was discoverable and potentially relevant to issues in this case or likely to lead to the discovery of admissible evidence. Accordingly, the court will award to plaintiff, as sanctions against defendants, an amount equal to two times the attorneys' fees and expenses incurred by plaintiff in bringing its motion for reconsideration and discovery sanctions (Doc. #75).

IT IS THEREFORE ORDERED that; plaintiff's motion for reconsideration of partial summary judgment (Doc. #75) is denied.

IT IS FURTHER ORDERED that plaintiff's motion for sanctions (Doc. #75) is granted. Plaintiff shall serve and file an itemized statement of its attorneys' fees and expenses within 30 days. Defendants shall serve and file any objections within 10 days after service of plaintiff's statement of its fees and expenses.

Dated this 27th day of July, 1998, at Kansas City, Kansas.

s/ Earl E. O'Connor
EARL E. O'CONNOR
United States District Judge

APPENDIX F — MEMORANDUM AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF KANSAS DATED AND FILED FEBRUARY 9, 1998

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

CIVIL ACTION
No. 96-2296-EEO

KUSTOM SIGNALS INC.,

Plaintiff,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants.

MEMORANDUM AND ORDER

This matter is before the court on defendants' motion for partial summary judgment (Doc. #39), plaintiff's motion in limine (Doc. #59), defendants' motion to strike portions of plaintiff's proposed claim construction findings (Doc. #65), and the request by all parties for the court's interpretation of certain disputed terms of the claims in suit of plaintiff's patent. The court held a hearing on December 2 and 3, 1997, pursuant to the principles set forth in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). The court has reviewed the parties' briefs and submissions and is now prepared to rule. For the reasons set forth below, defendants' motion for summary judgment will be granted in part and

denied in part, plaintiff's motion in limine will be denied, and defendants' motion to strike will be denied.

Factual Background

For purposes of defendants' motion, the following is a brief summary of the material facts that are uncontroverted, deemed admitted or, where controverted, viewed in the light most favorable to the non-movant, pursuant to Federal Rule of Civil Procedure 56 and District of Kansas Rule 56.1.

Plaintiff Kustom Signals, Inc. ("Kustom") and defendant Applied Concepts, Inc. ("ACI") manufacture and sell traffic radar and other equipment used by law enforcement agencies. Defendant John L. Aker is an independent contractor who has designed traffic radar for ACI since 1978. Kustom alleges that ACI's Stalker Dual radars infringe Kustom's patent for such a radar device, specifically, U.S. Patent 5,528,246 (the " '246 patent" or "Kustom radar").[1]

On a very general level, both the Kustom and Stalker Dual radars (1) measure the Doppler shift of vehicles within the radar's range, (2) convert the Doppler shift of a reflected signal from an analog signal to a digital signal, (3) use a method called a fast fourier transform to analyze the digital data and transform it into the frequency domain, (4) employ various measures to qualify the data so as to eliminate false signals or noise, and (5) display the speed of the target vehicle for the operator.

---

1. The court's reference to "Kustom radar" refers to the device disclosed by the claims of the '246 patent, not the actual radar Kustom developed pursuant to the patent.

Appendix F

On June 30, 1994, Kustom submitted an application to the Patent and Trademark Office ("PTO") for the '246 patent, a traffic radar with digital signal processing, which contained 21 claims. The PTO rejected Kustom's original 21 claims for obviousness. On June 5, 1995, Kustom filed an amended patent application adding 21 new claims and deleting the original 21 claims. On June 18, 1996, the PTO issued the '246 patent to Kustom, as the sole owner of the patent by assignment from the inventors. The '246 patent discloses a traffic radar device which processes Doppler return information in an effort to improve target identification and minimize interference and unwanted harmonics.

Original independent claim 1 of the '246 patent disclosed:

> A method of processing Doppler return information in a traffic radar comprising the steps of:
>
> (a)[2] receiving Doppler return information containing at least one return signal derived from a target vehicle,
>
> (b) presenting said Doppler return information as digital data,

---

2. Many of the claim paragraphs in the original and amended '246 patent do not contain paragraph letters. The court has added paragraph letters to many of the claims for convenience in referencing particular portions of the claims.

(c) transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

(d) validating said frequency components present in said spectrum by determining if each component has a greater magnitude than an average magnitude representative of the sensitivity of the spectrum, and

(e) determining the magnitude and frequency of each valid component.

New claim 1 did not include original clauses (d) and (e) but added the following:

(d) storing said components in a memory,

(e) searching said components in memory for the component that meets preselected magnitude or frequency criteria, and

(f) indicating the speed of the target vehicle corresponding to the component that meets said criteria.

Original independent claim 16 disclosed:

In a traffic radar, apparatus for processing Doppler return information comprising:

Appendix F

(a) means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

(b) means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

(c) means for determining if each of said components has a greater magnitude than an average magnitude representative of the sensitivity of the spectrum, whereby to validate those frequency components having said greater magnitude, and

(d) means for determining the magnitude and frequency of each valid component and retaining the same in memory.

New claim 16 did not include original clauses (c) or (d) but added the following:

(c) memory means for storing said components,

(d) means for searching the components stored in said memory means to identify the component that meets preselected magnitude or frequency criteria, and

(e) means responsive to the identified component for indicating the speed of the target vehicle corresponding thereto.

Original independent claim 20 disclosed:

In a traffic radar, apparatus for processing Doppler return information comprising:

(a) means for receiving Doppler return information containing at least one return signal derived from a target vehicle, and for presenting said information as digital data,

(b) means for transforming said data into the frequency domain to provide a spectrum that includes frequency components corresponding to Doppler return signals contained in said information,

(c) means for determining the magnitude and frequency of each of said components,

(d) search means for providing a plurality of modes of operation, including a mode in which a target vehicle component of greatest magnitude is identified and a mode in which a target vehicle component of highest frequency is identified, and

(e) means under operator control for selecting either a greater magnitude or highest frequency search, whereby either strongest signal or fastest signal target identification is provided.

Appendix F

New claim 20 is very similar to the original claim 20 but adds clause (c1) and slightly modifies clause (d):

> (c1) memory means for storing said components,
>
> (d) search means for providing a plurality of modes of operation, including a mode in which a target vehicle component of greatest magnitude in said memory means is identified and a mode in which a target vehicle component of highest frequency in said memory means is identified.

Defendant Aker worked as an independent contractor designing radar units which were manufactured and sold by ACI. Aker's inventions include the Stalker Dual and Stalker Dual SL radars (collectively "Stalker Dual radars"). The Stalker Dual radars are capable of simultaneously finding and displaying both the strongest and fastest targets. The Stalker Dual radars can search separately on frequency criteria to find the fastest target if and only if a valid strongest target is identified first. A fastest target searched is commenced automatically every time a valid strongest target is identified by the radar. Although the operator can prevent the display of the fastest target, he cannot prevent the Stalker Dual radars from automatically performing a fastest search whenever a valid strongest target has been identified. An operator of the Stalker Dual radars has the option to display the fastest and strongest targets when the device is in moving/ opposite lane or stationary modes.

Appendix F

Summary Judgment Standards

The Federal Rules of Civil Procedure should be applied in patent cases no differently than they are applied in any other type of case. *See SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1116 (Fed. Cir. 1985). Thus, summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); *accord Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986). A factual dispute is "material" only if it "might affect the outcome of the suit under the governing law." *Anderson*, 477 U.S. at 248.

The moving party bears the initial burden of showing that there is an absence of any genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986); *Hicks v. City of Watonga*, 942 F.2d 737, 743 (10th Cir. 1991). Essentially, the inquiry as to whether an issue is genuine is "whether the evidence presents a sufficient disagreement to require submission to the jury or whether it is so one-sided that one party must prevail as a matter of law." *Anderson*, 477 U.S. at 251-52. An issue of fact is genuine if the evidence is sufficient for a reasonable jury to return a verdict for the nonmoving party. *Id.* at 248. This inquiry necessarily implicates the substantive evidentiary standard of proof that would apply at trial. *Id.* at 252.

Once the moving party meets its burden, the burden shifts to the nonmoving party to demonstrate that genuine issues

remain for trial "as to those dispositive matters for which it carries the burden of proof." *Applied Genetics Int'l, Inc. v. First Affiliated Sec., Inc.*, 912 F.2d 1238, 1241 (10th Cir. 1990); *see also Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586-87 (1986); *Bacchus Indus., Inc. v. Arvin Indus., Inc.*, 939 F.2d 887, 891 (10th Cir. 1991). The nonmoving party may not rest on his pleadings but must set forth specific facts. *Applied Genetics*, 912 F.2d at 1241.

"[W]e must view the record in the light most favorable to the parties opposing the motion for summary judgment." *Deepwater Invs., Ltd. v. Jackson Hole Ski Corp.*, 938 F.2d 1105, 1110 (10th Cir. 1991). "In a response to a motion for summary judgment, a party cannot rely on ignorance of facts, on speculation, or on suspicion, and may not escape summary judgment in the mere hope that something will turn up at trial." *Conaway v. Smith*, 853 F.2d 789, 793 (10th Cir. 1988). The mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment. *Anderson*, 477 U.S. at 256.

The Federal Circuit has noted that summary judgment may be used as "a useful procedural tool whereby an unnecessary trial is avoided when there are no material facts in dispute." *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1570 (Fed. Cir. 1991). Summary judgment is not, however, intended to "substitute for trial when it is indeed necessary to find material facts." *Id.* "A district court should approach a motion for summary judgment on the fact issue of infringement with great care." *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 528 (Fed. Cir. 1996), *cert. denied*, 118 S. Ct. 56 (1997).

Appendix F

Analysis

Plaintiff alleges that defendants have infringed the '246 patent both literally and under the doctrine of equivalents. Defendants have moved for summary judgment on both infringement theories. Analysis of infringement involves a two-step process: (1) determination of the meaning and scope of the patent claims (a question of law), and (2) a comparison of the claims as construed to the device accused of infringing (a question of fact). *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976, 984 (Fed. Cir. 1995) (in banc), *aff'd*, 517 U.S. 370 (1996).

I. Claim Interpretation.

The focus in construing disputed terms of a patent claim is on an objective test of what one of ordinary skill in the art at the time of the invention would have understood the terms to mean. *See id.* at 986. In construing the challenged claims, the court looks first to the patent claims, the patent specification, and the prosecution history. *See id.* at 979. The court may refer to other claims in the same patent to ascertain the intended meaning of a disputed term in a claim, but may not read limitations from other claims into an independent claim. *See Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 699 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984). The concept of claim differentiation provides that "each claim of a patent constitutes a separate invention and gives rise to separate rights." *Jones v. Hardy*, 727 F.2d at 1428; *see Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d 1017, 1023-24 (Fed. Cir. 1987) (claim differentiation presumes that the difference between claims is significant).

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Claims must be read in light of the patent specification. *See Markman*, 52 F.3d at 979; *see also E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988) ("It is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim."). The specification contains a written description of the invention and includes a best mode or preferred embodiment of the invention. *See Markman*, 52 F.3d at 979. "[T]he description in the specification may act as a sort of dictionary, which explains the invention and may define terms used in the claims." *Id.* Although claims are interpreted in light of the patent specification, this "does not mean that everything expressed in the specification must be read into all the claims." *SRI Int'l*, 775 F.2d at 1121 (quoting *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 957 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 835 (1984)); *see Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1277 (Fed. Cir. 1995); *Intervet Am., Inc. v. Kee-Vet Laboratories, Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989) ("[L]imitations appearing in the specification will not be read into claims."). "[I]nterpreting what is *meant* by a word *in* a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.' " *Id.* (quoting *E.I. DuPont*, 849 F.2d at 1433). The specification identifies only the best mode of practicing an invention, not the scope of the invention. *See Transmatic*, 53 F.3d at 1276. The claims measure the scope of the invention. *See SRI Int'l*, 775 F.2d at 1121.

Claims also should be read in light of the patent's prosecution history. *See Markman*, 52 F.3d at 980. Although the prosecution history should be used to interpret the terms

of the claims, "it too cannot 'enlarge, diminish, or vary' the limitations in the claims." *Id.* (citations omitted).

The court also may consult dictionaries and technical treatises, if necessary, to help the court understand the underlying technology or to find the ordinary meaning of a disputed term. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 n.6 (Fed. Cir. 1996). If the court cannot determine the meaning of a disputed term from the patent documents and relevant dictionary definitions, the court may consult extrinsic evidence such as prior art or expert testimony. This evidence is used solely for the court to understand scientific principles, technical terms, or terms of art that appear in the patent and prosecution history. *See Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 980. There is no parol evidence rule in patent law. Extrinsic evidence cannot be used to explain ambiguity in claim terminology or to vary the claim terms. *See Vitronics*, 90 F.3d at 1583; *Markman*, 52 F.3d at 986. "The invention protected by the patent must be covered by the claims, otherwise it is lost." *Id.* at 985.

The court begins with an examination of the words of the claims themselves, "both asserted and nonasserted, to define the scope of the patented invention." *Vitronics*, 90 F.3d at 1582. Terms in a claim are generally given their ordinary and customary meaning. *See Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578 (Fed. Cir.), *cert. denied*, 117 S. Ct. 275 (1996). However, a patentee may give terms a different meaning, so long as the meaning is stated clearly in the patent specification or file history. *See id.*; *Markman*, 52 F.3d at 979-80.

Appendix F

The meanings of the terms "or," "preselected," and "criteria," as used in the challenged claims, are central to defendant's summary judgment motion. The court's construction of these disputed terms will govern the court's validity and infringement analysis at all stages of this case, including trial. *See Intervet*, 887 F.2d at 1053; *SRI Int'l*, 775 F.2d at 1121.

Pursuant to the above legal principles, the court heard evidence at the *Markman* hearing for the purpose of better understanding the basic scientific principles and technology of radar devices. At the hearing, several witnesses expressed legal conclusions, including their opinions as to the meaning of disputed terms in the patent claims. We have afforded the witnesses' testimony on claim interpretation no deference and considered this testimony merely as an extension of counsels' legal arguments. *See Markman*, 52 F.3d at 983 (testimony of inventor and patent attorney regarding claim construction is entitled to no deference and amounts to no more than legal opinion); *Chad Indus. Inc. v. Automation Tooling Sys., Inc.*, 938 F. Supp. 601, 604 (C.D. Cal. 1996) (testimony regarding claim construction treated as extension of legal argument). Plaintiff filed a motion in limine to exclude evidence of witnesses' claim interpretation (Doc. #59). For ease of administration, the court heard the witnesses' testimony subject to the above claim construction principles. Accordingly, plaintiff's motion in limine will be denied.[3]

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3. Defendants have filed a motion to strike portions of plaintiff's proposed claim construction findings as inconsistent with the court's request for briefing. The court finds that both parties elaborated on

(Cont'd)

Appendix F

A. *Meaning Of "Or."*

The court construes the term "or" as used in claims 1(e), 16(d) and 20(e) to mean "a choice between either one of two alternatives, but not both." The term "or" should be given its ordinary and accustomed meaning because there is no indication in the '246 patent documents that the inventor intended otherwise. *See Hoechst*, 78 F.3d at 1578; *Transmatic*, 53 F.3d at 1276. "Or" typically is defined as "a choice of available alternatives." *See* Plaintiff's Proposed Claim Construction Findings at 1; Webster's Third New Int'l Dictionary (Unabridged) 1585 (1986) ("choice between alternative things, states, or courses"); Black's Law Dictionary 1095 (6th Ed. 1990) ("A disjunctive particle used to express an alternative or to give a choice of one among two or more things."). An "alternative" is defined as "a proposition or situation offering a choice between two things wherein if one thing is chosen the other is rejected." Webster's Third New Int'l Dictionary at 63; Webster's New Collegiate Dictionary 35 (1977) ("a proposition or situation offering a choice between two or more things only one of which may be chosen"); Black's Law Dictionary at 78 ("one or the other of two things"). The ordinary meaning of "or" does not include a choice of both alternatives. Rather, in accordance with the above dictionary definitions, "or" expresses a choice between either one of two alternatives, but not both.

(Cont'd)
their positions beyond what the court intended in the briefing. Further, plaintiff made many of the same arguments at the *Markman* hearing that it did in its briefing so that defendant was not prejudiced by the additional arguments in plaintiff's brief. Accordingly, defendants' motion to strike will be denied.

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The specification of the '246 patent strongly supports the court's definition of "or." *See Modine Mfg. Co. v. United States Int'l Trade Comm'n*, 75 F.3d 1545, 1550 (Fed. Cir.) (interpretation of term that would exclude the inventor's preferred embodiment in the specification is rarely the correct interpretation), *cert. denied*, 116 S. Ct. 2523 (1996). Plaintiff does not contest that the preferred embodiment set forth in the specification uses the term "or" to express a choice between either one of two alternatives, but not both. First, we note that the specification provides for six separate modes of operation under operator control including: (1) stationary mode, strongest signal, (2) stationary mode, fastest signal, (3) moving mode, opposite direction, strongest signal, (4) moving mode, opposite direction, fastest signal, (5), moving mode, same direction, normal processing, and (6) moving mode, same direction, slower target processing. *See* Col. 5, ll. 23-31. The specification simply does not provide for any combination of these six modes so that both fastest and strongest signals may be detected and displayed. *See id.*; col. 2, ll. 6-10 ("various modes of operation may be selected by the operator, including stationary modes in which either the strongest or fastest signal may be selected, moving modes in which oncoming traffic in the opposite lane may be detected on either a strongest or fastest signal basis"). The specification for the '246 patent provides that the radar device reads the "strongest/fastest flag." *See, e.g.*, Fig. 25. If the flag is set for fastest mode, then the device does a fastest target search only. *See id.* If the flag is set for strongest mode, then the device does a strongest target search only. *See id.*

The prosecution history of the '246 patent also supports the court's construction of the term "or." In particular, original

claim 1 included a spectrum validation process and the step of "determining the magnitude and frequency of each valid component." Claims 1(d) and (e). New claim, 1 did not include these two steps but added the following:

> (d) storing said components in a memory,
>
> (e) searching said components in memory for the component that meets preselected magnitude or frequency criteria, and
>
> (f) indicating the speed of the target vehicle corresponding to the component that meets said criteria.

Plaintiff made similar changes to claim 16. Original claim 16 included means for a spectrum validation process and "means for determining the magnitude and frequency of each valid component and retaining the same in memory." Claims 16(d) and (e). New claim 16 did not include these two clauses but added the following:

> (c) memory means for storing said components,
>
> (d) means for searching the components stored in said memory means to identify the component that meets preselected magnitude or frequency criteria, and
>
> (e) means responsive to the identified component for indicating the speed of the target vehicle corresponding thereto.

The above changes indicate that the new patent discloses a device which conducts searches for either a strongest or fastest target, but not both. The original claims 1(e) and 16(e), which provided for determining magnitude *and* frequency, were eliminated (although amended claim 20(c) retains this language). In the '246 patent as amended, a search is conducted for the single component in memory that meets certain criteria and only the speed of that single target is displayed for the operator. The amended claims simply do not disclose a device that searches and displays both a fastest and strongest target simultaneously based on the same set of data. In fact, the original '246 patent application does not disclose such a device as it was rejected based on obviousness in light of the Muni Quip MDR-1, which is "a Doppler radar that allows selection of the dominant signal *or* high speed target." (emphasis added).

We also find that our construction is consistent with the notice function of patents. The patent holder must distinctly claim his invention so that competitors will be on notice of the scope of the patent holder's rights. *See Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996); *see also Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 951 (Fed. Cir. 1993) (function of claims is "putting competitors on notice of the scope of the claimed invention"). The Federal Circuit has held that "[w]here there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning, we consider the notice function of the claim to be best served by adopting the narrower meaning." *Athletic Alternatives*, 73 F.3d at 1581; *see Ethicon Endo-*

Surgery, Inc. v. U.S. Surgical Corp., 93 F.3d 1572, 1581 (Fed. Cir. 1996); *see also Paeco, Inc. v. Applied Moldings Inc.*, 562 F.2d 870, 876 (3d Cir. 1977) ("Because the claim is capable of two interpretations, we are justified in looking behind the words of the claim to the specification and description of the invention for explication of the Claim's meaning."). Accordingly, we conclude that the notice function of patents is best served in this case by interpreting "or" to mean a choice between either one of two alternatives, but not both.

The language of claims 20(d) and 20(e) also supports the court's construction of "or." Claim 20 discloses:

> (e) search means for providing a *plurality of modes of operation*, including a mode in which a target vehicle component of greatest magnitude in said memory means is identified and a mode in which a target vehicle component of highest frequency in said memory means is identified.
>
> (f) means under operator control for selecting *either* a greater magnitude or highest frequency search, whereby *either* strongest signal or fastest signal target identification is provided.

(Emphasis added.) When used in context of the '246 patent, the ordinary meaning of "either" in claim 20(f) is "the one or the other of the two alternatives." Webster's (Unabridged) at 728; Webster's Collegiate at 364. Without importing the limitations of claim 20 into claims 1 and 16, we recognize that terms generally should be given the same meaning

throughout a single patent. *See Environmental Designs*, 713 F.2d at 699. Accordingly, the court will construe "or" throughout the '246 patent as "a choice between either one of two alternatives, but not both."[4]

B. *Meaning Of "Preselected" And "Criteria."*

The term "preselected" is used in claims 1(e) and 16(d) while the term "criteria" is used in claims 1(e), 1(f), and 16(d). Claim 1(e) reads: "searching said components in memory for the component that meets preselected magnitude or frequency criteria." Claim 16(d) similarly reads: "means for searching the components stored in said memory means to identify the component that meets preselected magnitude or frequency criteria." The parties dispute (1) what "criteria" are referred to in these claims and (2) whether the criteria is "preselected" by the operator or already is part of the software within the radar device.

Plaintiff maintains that "criteria" as used in the claims "embraces the operation of the software in validating the Doppler return signals and determining their magnitude and frequency." On the other hand, defendants claim that "criteria" refers to the actions in the software subsequent to selection of the strongest or fastest mode. The court essentially agrees with defendants' interpretation. The court construes "criteria" in claims 1(e), 1(f), and 16(d) as

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4. Defendants also argue that its proposed definition of "or" is dictated by 35 U.S.C. § 112 ¶ 6 because claims 1(e), 16, and 20 are in means plus function format. We need not reach this issue given our ruling which adopts defendants' proposed definition of "or" under the standard claim construction rules.

"standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator." The court construes the term "preselected" in claims 1 and 16 as "a selection of criteria which have been programmed into the software and cannot be altered by the operator." Consistent with these interpretations, the court concludes that the operator has the choice of which preselected criteria will be used, *i.e.*, fastest or strongest target criteria, but the operator cannot alter the criteria the radar device uses to find the fastest or strongest target. In other words, although the operator selects the mode of operation, *i.e.*, fastest or strongest, the operator cannot control how the radar device searches the stored data and determines a fastest or strongest target.

The court's interpretation of "preselected" and "criteria" is consistent with the patent claims. First, claims 1(e) and 16(d) refer to searching for "*the* component that meets preselected magnitude or frequency criteria." (Emphasis added.) Claim 1(f) refers to indicating the speed of *the* vehicle corresponding to *the* component that meets said criteria. In this context, criteria cannot refer to the process of validating multiple Doppler return signals and determining their magnitude and frequency, as plaintiff argues, because no single component is identified during this process. Rather, criteria must refer to the process of searching and finding a single target for display. Given the operator's choice of strongest or fastest mode, the radar device has a set of criteria for finding a fastest target and a set of criteria for finding a strongest target. Both sets of criteria are programmed into the software of the radar device. Pursuant to claims 1(e) and 16(d) of the '246 patent, there are two different types of

searches which can be executed in the radar device depending on whether the operator has selected fastest or strongest mode.

The court's interpretation of "preselected" and "criteria" also comports with the ordinary meaning of these terms. First, the term "preselected" ordinarily is defined as "chosen in advance usually on the basis of a particular criterion." Webster's New Collegiate Dictionary at 910. This definition is consistent with the court's definition of "preselected" as a selection of criteria programmed into the software which cannot be altered by the operator.

"Criteria" ordinarily is defined as standards on which a judgment or decision may be based. Webster's New Collegiate Dictionary at 270. Here, the criteria to find a single fastest or strongest target, from a number of frequency components corresponding to Doppler return signals, is programmed into the software. There are two possible final decisions for the radar device — display of a single fastest target or a single strongest target. Accordingly, there must be two sets of criteria programmed into the software, only one of which will be used during a search depending on the operator's selection of fastest or strongest mode.

The '246 patent specification also supports the court's construction of the terms "preselected" and "criteria." In the specification, a search is conducted to find either the strongest or fastest target. This search takes place after the digital signal processor ("DSP") reads the strongest/fastest flag. *See, e.g.*, Fig. 25. The preselected criteria used in the search include finding the strongest or fastest signal with a non-zero

magnitude and an index within specified limits. *See, e.g.*, Figs. 27, 28. A single "component" is not identified until after the DSP determines whether strongest or fastest mode has been selected and a second search is conducted in accordance with the preselected magnitude or frequency criteria. *See, e.g.*, Figs. 25, 27, 28.

For all of the above reasons, the court construes "criteria" as "standards used to search and find a single fastest or strongest target, depending on the mode selected by the operator" and "preselected" as "a selection of criteria which have been programmed into the software and cannot be altered by the operator."

II. Literal Infringement.

"Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly." *Engel Indus., Inc. v. Lockformer Co.*, 96 F.3d 1398, 1405 (Fed. Cir. 1996) (citing *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580 (Fed. Cir. 1989)). The determination of infringement is a question of fact. *See Engel*, 96 F.3d at 1406.

Here, claims 1, 16, and 20 do not read exactly on defendant's Stalker radars. Claims 1, 16, and 20 disclose a method and apparatus for the search and display of a single fastest or strongest target, depending on the mode selected by the operator. In contrast, the Stalker Dual radars always perform a search for both a fastest target and a strongest target. Indeed, if a strongest target that meets certain limits is not identified, the Stalker Dual radar will not perform a

search for the fastest target. Further, in moving/opposite lane and stationary modes, the Stalker Dual radars provide for the simultaneous display of both fastest and strongest targets.

Plaintiff argues that "because the claims are open-ended as a matter of law they are not limited to a system in which only the speed of the strongest or fastest target is displayed." Claims 1, 16, and 20 use the term "comprising" in the opening clause and therefore are considered "open ended" claims. *See Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Corp.*, 123 F.3d 1445, 1451 (Fed. Cir. 1997). "Comprising," when used in claim language, means "the named elements are essential, but other elements may be added and still form a construct within the scope of the claim." *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997). "For example, a pencil structurally infringing a patent claim would not become noninfringing when incorporated into a complex machine that limits or controls what the pencil can write. Neither would infringement be negated simply because the patentee failed to contemplate use of the pencil in that environment." *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1042 (1984). Thus, an accused device may infringe if it contains all of the limitations of one of the claims but merely adds an additional extraneous limitation. *See Amstar Corp. v. Envirotech Corp.*, 730 F.2d 1476, 1482 (Fed. Cir.), *cert. denied*, 469 U.S. 924 (1984).

In essence, plaintiff argues that defendants have added an extraneous limitation that the Stalker Dual radars can search and display both fastest and strongest targets. Plaintiff ignores the express claim language of the '246 patent. Patent

claims 1, 16, and 20 specifically recite that either fastest or strongest targets are searched and displayed. The court has interpreted "or" as a choice between either one of two alternatives, but not both. Therefore, the '246 patent does not read exactly on the Stalker Dual radars, which require both fastest and strongest searches.

In its opposition brief, plaintiff does not argue that defendants have literally infringed the '246 patent by application of 35 U.S.C. § 112, ¶ 6. Defendants raised the issue in their initial memorandum. The patent statute provides:

> an element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6. We find no literal infringement by defendants even under 35 U.S.C. § 112, ¶ 6. The Federal Circuit has held that "[if] the required function is not performed exactly in the accused device, it must be borne in mind that section 112, paragraph 6, equivalency is not involved." *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988). Here, plaintiff has not established that the required functions of claims 1, 16, or 20, *e.g.*, search and display of either fastest or strongest targets but not both, are performed exactly in defendants' Stalker Dual radars.

For all of the above reasons, the court concludes that defendants have not literally infringed claims 1, 16, or 20 of the '246 patent.

III. Infringement Under The Doctrine Of Equivalents.

Even if an accused device does not literally satisfy all of the limitations of a patent, infringement may be found under the doctrine of equivalents. *See Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 117 S. Ct. 1040, 1049 (1997), *rev'g*, 62 F.3d 1512, 1517 (Fed. Cir. 1995). The doctrine of equivalents rests on the rationale that limiting enforcement of patent rights to literal infringement may be harsh in some circumstances and "would place the inventor at the mercy of verbalism" — elevating form over substance. *Warner-Jenkinson*, 62 F.3d at 1517 (quoting *Graver Tank Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950)).

To prevail on a claim of infringement under the doctrine of equivalents, a patentee must prove, by a preponderance of the evidence, that "the differences between the claimed and accused products or processes are insubstantial." *Warner-Jenkinson*, 62 F.3d at 1517. The court assesses the substantiality of the differences between two products "according to an objective standard" viewed from "the vantage point of one of ordinary skill in the relevant art." *Id.* at 1519. The doctrine of equivalents is applied on an element-by-element basis, not to the invention as a whole. *See Warner-Jenkinson*, 117 S. Ct. at 1049. The Supreme Court has held that the doctrine of equivalents must be applied such that it "is not allowed such broad play as to effectively eliminate [an] element [of a claim] in its entirety."

Id.; *see Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1992) ("The doctrine of equivalents is not a license to ignore claim limitations.").

Traditionally, courts have applied the "function-way-result" test to measure the substantiality of differences between an accused and claimed device. *Warner-Jenkinson*, 62 F.3d at 1518-21. The test focuses on whether an element of an accused device performs substantially the same function in substantially the same way to achieve substantially the same result as an element of the claimed device. *See id.* at 1518. In *Warner-Jenkinson*, the Federal Circuit held that although the "function-way-result" test can be used to assess whether two devices are equivalent, it is only one of several relevant inquiries.

Another important inquiry in assessing the substantiality of differences is "whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was." *Id.*; *see also Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1261 (Fed. Cir. 1989). "Known interchangeability" of an element in the accused device with a claimed element is "potent evidence that one of ordinary skill in the relevant art would have considered the change insubstantial." *Warner-Jenkinson*, 62 F.3d at 1519. Known interchangeability is evaluated at the time of infringement, not at the time the patent was issued. *Warner-Jenkinson*, 117 S. Ct. at 1053.

The Supreme Court has declined to adopt a specific linguistic framework for applying the doctrine of equivalents.

Id. at 1054. Rather, the Court emphasizes that each framework or test should focus on the ultimate inquiry: "Does the accused product or process contain elements identical or equivalent to each claimed element of the patented invention?" *Id.*

Here, defendants have failed to establish as a matter of law that its Stalker Dual radars do not infringe claims 1, 16, and 20 of the '246 patent under the doctrine of equivalents. Although we held above that the '246 patent does not read exactly on defendants' Stalker Dual radars, we cannot conclude that the differences between the elements of the Kustom and Stalker Dual radars are not "insubstantial" as a matter of law. Based on the conflicting evidence presented by the parties, particularly the experts' reports and testimony presented by the parties, there remains an issue of fact as to whether the Stalker Dual radars perform substantially the same functions in substantially the same ways to achieve substantially the same results as the Kustom radar.

The court notes that evidence of the known interchangeability of the Stalker Dual radars' element of searching and displaying both the fastest and strongest targets with the element of the '246 patent of searching and displaying either the fastest or strongest target may be important in determining whether defendants' Stalker Dual radars infringe plaintiff's patent. Moreover, the court notes that the doctrine of equivalents cannot be used to erase "meaningful structural and functional limitations of the claim[s]" in the '246 patent. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997). At this point, given the limited briefing on the issue and the

remaining disputed factual issues, the court cannot conclude as a matter of law whether application of the doctrine of equivalents to defendants' Stalker Dual radars would erase functional limitations of the '246 patent or merely combine two separate elements already disclosed in the '246 patent, *i.e.*, fastest and strongest searches.

Defendant has pointed to a number of differences between the Stalker Dual radars and the '246 patent. For example, defendants argue that the Stalker Dual radars can perform both a fastest and strongest target search and display from the same set of data while the '246 patent must collect a new set of data if the operator wishes to change modes. Although this may be a difference, there is a factual dispute as to whether this difference is substantial for purposes of the doctrine of equivalents analysis. The factual record is not so one-sided that the court can resolve the issue as a matter of law. *See Anderson*, 477 U.S. at 251-52.

Defendants also assert that prosecution history estoppel bars Kustom from asserting a claim of infringement under the doctrine of equivalents. *See Warner-Jenkinson*, 117 S. Ct. at 1049-51. A patent holder cannot limit or modify one of its claims to avoid rejection by the PTO and thereafter attempt to expand the claim to include subject matter thus excluded or any equivalent thereof. *See* Peter D. Rosenberg, Patent Law Fundamentals § 17.07[2] at 17-130 (Rev. 1997). Defendants apparently maintain that the original '246 patent provided for the search of both strongest and fastest targets but the amended patent eliminated these claims and provided for the search of either strongest or fastest targets. The record simply does not support defendants' argument. Indeed, the

Appendix F

PTO examiner rejected original claims 1, 16, and 20 as obvious in light of the Muni Quip MDR-1, which is "a Doppler radar that allows selection of the dominant signal *or* high speed target." (Emphasis added.) Kustom certainly did not avoid rejection of the amended application by deleting "and" and inserting "or" in its claims. Rather, Kustom emphasized several differences between its device and the prior art, including the conversion to digital, not analog, data, and the multi-mode operation of the radar. Original and amended claim 20(d) specifically provide for multi-mode operation. Further, original claim 20(c), which provided for "means for determining the magnitude and frequency of each of said components," was not altered on amendment. After carefully reviewing the original and amended '246 patent applications, we find that Kustom did not change its device from one that provided both fastest and strongest target information to a device that provided information on either the fastest or strongest target. Both the original and amended applications appear to disclose a device that provides for the search and display of either the fastest or strongest target. Accordingly, prosecution history estoppel is not applicable on the facts of this case.

For all of the above reasons, the court will deny defendants' motion for summary judgment with respect to plaintiff's claim of infringement under the doctrine of equivalents.

IT IS THEREFORE ORDERED that defendants' motion for partial summary judgment (Doc. #39) is granted with respect to plaintiff's claim of literal infringement of claims 1, 16, and 20 of U.S. Patent No. 5,528,246.

IT IS FURTHER ORDERED that defendants' motion for summary judgment (Doc. #39) is denied with respect to plaintiff's claim of infringement under the doctrine of equivalents of claims 1, 16, and 20 of U.S. Patent No. 5,528,246.

IT IS FURTHER ORDERED that defendants' motion to strike portions of plaintiff's proposed claim construction findings (Doc. #65) is denied.

IT IS FURTHER ORDERED that plaintiff's motion in limine (Doc. #59) is denied.

Dated this 9th day of February, 1998, at Kansas City, Kansas.

s/ Earl E. O'Connor
EARL E. O'CONNOR
United States District Judge

APPENDIX G — ORDER OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DENYING PETITION FOR REHEARING DATED AND FILED OCTOBER 19, 2001

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

99-1564

KUSTOM SIGNALS, INC.,

Plaintiff-Appellant,

v.

APPLIED CONCEPTS, INC. and JOHN L. AKER,

Defendants-Appellees.

ORDER

Before MAYER, Chief Judge, NEWMAN, Circuit Judge, and LOURIE, Circuit Judge.

A petition for rehearing having been filed by the APPELLANT, and a response thereto having been invited by the court and filed by the APPELLEES,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED.

Appendix G

The mandate of the court will issue on October 26, 2001.

FOR THE COURT,

s/ Jan Horbaly
Jan Horbaly
Clerk

Dated: October 19, 2001

KUSTOM SIGNALS V APPLIED CONCEPTS, 99-1564
(DCT – 96-CV-2296)

APPENDIX H — U.S. PATENT NO. 5,528,246
DATED JUNE 18, 1996

[Omitted here but submitted separately as Lodging]

APPENDIX I — RESPONSE TO EXAMINER'S ACTION DATED AUGUST 31, 1995

[Omitted here but submitted separately as Lodging]

APPENDIX J — EXAMINER'S ACTION, PATENT AND TRADEMARK OFFICE RE PATENT APPLICATION DATED JUNE 5, 1995

[Omitted here but submitted separately as Lodging]